

**AN ENVIRONMENTAL FEMINIST ANALYSIS OF CANADA/COSTA RICA
DEBT-FOR-NATURE INVESTMENT:**

A CASE STUDY OF INTENSIFYING COMMODIFICATION

by

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for the degree of Doctor of Philosophy
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Abstract

This thesis analyzes Canadian debt-for-nature investment in Costa Rica in the context of development and the historical relationships of power between industrial countries and colonies, between the state and the people, between men and women, and between human beings and nature.

The stated aim of Canadian debt-for-nature investment in Costa Rica is to develop a model of environmental management which reduces poverty and environmental degradation. This is done through funding the activities of two non-governmental organizations (NGOs): the National Institute of Biodiversity (INBio) and the World Wildlife Fund–Canada (WWF-C).

INBio is the debtor NGO using debt-for-nature funds in eleven nationally-designated conservation areas throughout Costa Rica to identify and access the resources of biodiversity for the international market.

WWF-C is the creditor NGO using debt-for-nature funds to create micro-enterprises in the same eleven conservation areas. WWF-C is based in the Arenal Conservation Area (ACA) where it has initiated a unique land management and planning project including, at its core, the micro-enterprise Abanico Medicinal Plant and Organic Agriculture Project (the Abanico Project).

This thesis presents a close analysis of the structure and functioning of the complex Canada–Costa Rica debt-for-nature investment relationship and the projects developed by INBio and WWF-C. In this context, the thesis highlights the micro-enterprise Abanico Medicinal Plant and Organic Agriculture Project. Micro-enterprises, such as this one, are income-generating units for low-income people promoted by public policies and developed by NGOs using international aid funds such as debt-for-nature investments.

This research, at both the macro and the micro level, shows that the environmental economic model of debt-for-nature investment does not depart from the neoclassical models of economic development that underlie the current environmental, social, and cultural crisis.

Both INBio and WWF-C activities operationalize the commitment of the World Bank, the International Monetary Fund, and many large environmental NGOs to pursue sustainable development and gender equity by means of the market. In documenting these practices and their consequences for local populations, this study challenges the claims that debt-for-nature investment reduces poverty and ecological destruction and, instead, uncovers the inadequacy of market-based solutions for these kinds of problems.

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Introduction

A. Background

This thesis focuses on debt-for-nature swaps. Debt-for-nature swaps are financial investments that use repayment of loans for financing non-governmental organizations' (NGOs) environmental projects. The main objectives of this type of investment for environmental organizations have been the identification of ecologically-sensitive areas and the negotiating of commitments for research and scientific data collection in the Third World Countries (TWCs) (Dawkins, 1992). Debt-for-nature swaps are complex social processes in which NGOs are only one among many different interested groups using funds to bolster their position in the international markets.

Debt-for-nature as a policy of exchanging debt instruments held by creditors (commercial banks, governments) for natural resources is currently advocated as a way of reducing the burden of Third World debt while opening increasing areas and species to environmental management for sustainable development. This approach is supported by the World Bank (WB), the United Nations Educational, Scientific and Cultural Organization (UNESCO), the International Monetary Fund (IMF) and favoured by industrialized countries, development agencies, and many environmental groups.

This study takes place in Costa Rica. Costa Rica is the third smallest country in the Isthmus of Central America, after Belize and El Salvador. It is located between 8–11° degrees northern latitude and is exposed to the influence of the northern and Caribbean regions of the country. A volcanic mountain range running from North to South serves as a barrier that the winds must cross to reach the Pacific coast, causing the precipitation and the length of the dry season to vary substantially on each coast. Professor Carlos Quesada (1990) characterizes Costa Rica's climatic features into five regions: North Pacific, South Pacific, Central Valley, Northern Watershed, and the Atlantic region. Due to Costa Rica's location in the equatorial zone, the average temperature of the warmest month does not exceed the average temperature

of the coolest month by more than 5° Celsius at a given site. Temperatures can range from 2.2° Celsius in Cerro Chirripo—the country’s highest peak—to 33° Celsius on the Pacific coast. “All these factors, rainfall, humidity, solar radiation, temperature, the irregularity of the topography, the influence of winds among other factors, contribute to the existence of hundreds of microclimates which nurture diverse ecosystems of exotic tropical fauna and flora” (Janzen in Sancho, n.d.).

Costa Rica is generally regarded as one of the best examples of economic, and in particular, sustainable development in Latin America because its health, education, and GDP indicators are only surpassed by Cuba. The United Nations’s (UN) Human Development Index rates Costa Rica’s life expectancy at birth, per-capita income, and education very highly. It also has among the highest per capita external debt in the world. During the United Nations Conference on Environment and Development (UNCED), held in 1992, in Rio de Janeiro, Brazil, Costa Rica was among the countries which received an international award for its conservation policies (Boza, 1993). Paradoxically, throughout the last 50 years, Costa Rica has been exhausting its biomass and has experienced one of the highest rates of deforestation in the world. Sixty-eight per cent of Costa Rica’s land was deforested between 1940 and 1977. From 1970 to 1980, Costa Rica had one of the highest deforestation rates in the world—50,000 ha. of primary forest every year (Matamoros, 1995; MIRENEM, 1990).

Costa Rica’s development followed the Economic Commission of Latin America and Caribbean’s (ECLAC) model of economic development that promised elimination of poverty through different kinds of investment in the economy. The common fear in the early 1950s was that if poor countries were not rescued from their poverty, they would succumb to communism. Poverty was understood as absence of industrialization, western consumption patterns, and/or cash incomes (Mies and Shiva, 1993). And, if the problem was one of insufficient income, the solution was economic growth. Development aimed at economic growth became the universal truth. Investment in economic development was presumed to be also a war against poverty. This proved not to be true in Costa Rica’s case where debt crisis and deforestation are the costs of trying to achieve modernization/industrialization (ECODES, 1989).

In 1981, as a consequence of the monetarist policies led by Reagan and Thatcher, the interest rates increased and foreign loans became insupportable. Costa Rica became the first nation in Latin America to suspend unilaterally all payments on its foreign debt. The IMF closed its doors; Costa Rica was unable to get further loans (Petch, 1988; C. Sojo, 1992; Vega Carballo, 1992) and capital accumulation stopped. In 1984, Costa Rica, immobilized by the IMF-stabilization and World Bank (WB)-Structural Adjustments, sold its geo-political location to Washington to fight the Cold War against Nicaragua. In 1988, the ECODES conference—launched by the Ministry of Natural Resources, Energy and Mines (MIRENEM)—declared the country's forest situation to be in a state of emergency. At the same time, Costa Rica needed to find more resources in order to pay down the foreign debt. Since then, Costa Rica's rich biodiversity is being used to open up new bases for investment in the hope of addressing the coinciding forest and debt crisis.

President Arias's administration (1986-1990) allowed Costa Rica to become a pilot project for debt-for-nature swaps. President Figueres (1994-1998) committed his administration to enabling Costa Rica to become a pilot project for sustainable development. Through the supply side macro-economic policies imposed by the IMF and the World Bank, both administrations created the conditions for further participation of development agencies, international financial institutions (banks), multilateral organizations, and environmental NGOs, all of which are interested in both debt-for-nature investments and sustainable development.

Costa Rica is the pioneer in debt-for-nature swaps. In Costa Rica, it is possible to differentiate two generations of debt-for-nature swaps. The first generation of debt-for-nature swaps started when Costa Rica's debts were sold by commercial banks in the secondary market at discounts of up to 70 percent. Non-governmental organizations and/or other foreign organizations purchased highly-discounted foreign debt bonds in this secondary market and then presented these bonds to the debtor country, which committed itself to allocating resources for financing ecological projects. In such swaps, an indebted country channels resources in local currency, bonds or cash, corresponding to all, or a major portion

of, the original value of the debt in foreign currency to the NGOs or other foreign organization(s) that purchase the debt bonds (CI, 1991; Cuoto, 1992).

The second generation of debt-for-nature swaps saw the establishment of a financial mechanism that exchanges loans for sustainable development in TWCs. Government debt-for-nature initiatives are not typical swaps because there is no transaction of debts (buying in the secondary market) and no intermediary organizations (donors and brokers). The transaction is between a creditor government and a debtor government. Signatory governments donate the value of the debt to their environmental organizations to promote sustainable development.

But, why are these various parties interested in becoming involved? The conservation model aims to restructure international capital through sustainable development. What kind of development will debt-for-nature investments sustain? This is the question that the thesis addresses through a case study of Canada–Costa Rica debt-for nature swaps.

B. Aims of the Study

To contribute to the debate on what kind of investment-conservation is taking place in Third World countries using debt-for-nature swaps, I selected a best-case scenario of debt-for-nature swaps: the Canada-Costa Rica debt-for-nature initiative. The study examines the effects of a second generation of debt-for-nature swaps and questions whether current practices fit the needs of Costa Rican people and the local environment.

Canada-Costa Rica debt-for-nature swaps is a bilateral debt-for-nature initiative that implements the Latin American Official Development Assistance (ODA) program, the result of three Development Loan Agreements that took place between 1984 and 1985. Since Costa Rica's debt was priced low in the secondary market, Canada took steps to obtain Parliamentary approval to reduce the portion of the debt owed to Canada by 50 percent. Costa Rica is paying in local currency (*colones*) to the Costa Rica–Canada Trust Fund for Biodiversity (FIDEICOMMISSA) the equivalent of eleven million, three hundred and fifty-five

thousand, eight hundred and nine Canadian dollars and fifty cents (CDN\$11, 355, 809.50) (MOU). The Canadian and Costa Rican governments are not allowed to receive the debt titles directly—they must be donated to NGOs, which become the government's creditor. This study analyzes the use of the FIDEICOMMISSA funds created by the Canada-Costa Rica debt-for-nature swap and channelled to the National Institute for Biodiversity (INBio) and to the World Wildlife Fund–Canada (WWF-C).

INBio is the debtor-NGO using debt-for-nature funds in eleven of Costa Rica's officially designated conservation areas, the *Sistema Nacional de Areas de Conservacion* (SINAC) (National System of Conservation Areas), to identify and access resources of biodiversity for the international market. In studying INBio's activities, I concentrate on nature and community knowledge appropriation as well as on the role of Costa Rica as a biodiversity source. INBio's conservation scheme transforms nature into a reservoir of material resources to be exploited and turned into profit through bioprospecting and biotechnology.

WWF-C, is the creditor-NGO using debt-for-nature funds to work in one of the these eleven designated conservation areas, the Arenal Conservation Area (ACA). Here it has initiated a unique land management and planning project—The Arenal Development and Conservation Project (the Arenal Project). The Arenal Project is a Canadian International Development Agency (CIDA) project directed by the World Wildlife Fund–Canada, the Canadian agency that carries out the investment. The Arenal Conservation Area covers 940,000 hectares (ha.), 20 percent of the national territory. It is comprised of two sub-areas: ACA-Huetar Norte and ACA-Tilaran. This thesis examines the Arenal Project as it is implemented in ACA-Tilaran, which used to cover 204,000 ha. (4.08 percent) of the national territory but which recently has been expanded to cover some 250,561.5 ha. (Mora, 1998).

In studying the Arenal Conservation Area, I concentrate on so-called sustainable development and its effects on the rural, local community. Nature is reclassified as environment and, by excluding the local communities, the forests are “protected” for research by NGOs, academia, and industry (pharmaceutical and others).

This study shows that the Arenal Project overlooked class differences between the residents of Fortuna, ostensibly a part of Fortuna Priority Working Unit (PWU) the organization uniting community, NGOs, and government officials established by the WWF-C in Fortuna, ACA-Tilaran—and ignored gender differences. In a class and gendered society, where few hold major land properties, a common ecological agenda is not possible. The land owners (of variously sized properties), the dispossessed poor, and *campesinas/os* (peasant women and men) in general, have different interests. Thus, sustainable development in the Arenal Conservation Area is seen by peasant women and men as money coming from outside (for example, Canada or Holland). Local groups and communities participate as social actors, exploiting what is perceived to benefit them economically and/or resisting what may hurt them. Costa Rica's *campesino/a* experience is clearly expressed in the following phrase "*Unos dineros vienen para construir y otros dineros vienen para destruir y para poder vivir, nosotros tenemos que aprender a usar esos dineros*" (some money comes to construct, other money comes to destroy; to live well we need to learn how to use both these types of money).

Using the Abanico Medicinal Plant and Organic Agriculture Project (the Abanico Project), I examine the WWF-C Women in Development (WID) Program which was carried out using debt-for-nature funds. In the implementation of this program, medicinal plants produced for the market changed from being a use value for peasant family consumption to exchange value. Traditionally, women in Costa Rica provided *cocimientos* (a combination of plants for healing purposes) to their families. The WWF-C maintains that women's work with medicinal plants should be a catalyst for their emancipation and economic independence, as well as a way to improve their quality of life, and, furthermore, a method of participating in the restoration of the environment. As medicinal plants become commodified, however, women become the commodity producer. During the process of commodification, capital remakes nature and women, as well as their products, biologically and physically, politically and ideologically. Debt-for-nature swaps, thus, do not merely appropriate nature, they turn nature, workers, and women into commodities. Translated to the market, medicinal plants change from being women's source of power to becoming a source of their exploitation.

Analyzing the social process of debt-for-nature swaps, this study aims to shed light on the dynamics of the local system. The focus is directed towards the native Costa Ricans living under the Arenal Project's influence. This study demonstrates the multiple ways by which the local people and local nature become connected to the international markets and the global system. It analyzes, in some detail, the social dynamics of the Abanico Medicinal Plant and Organic Agriculture and the local-level interactions and perceptions of members of Fortuna Priority Working Unit. By linking debt-for-nature swaps in the study area to corresponding regional, national, and global events, this study challenges the assumption that underdevelopment is an isolated, self-motivated, and self-regulating situation, as well as the macro-economic belief that sustainable development will redress problems of debt and environment.

Debt-for-nature is a way to expand economic growth, capital accumulation, profit, and technology on a world scale. Debt-for-nature swaps are the result of the economic belief that earth and nature fail to provide enough for all and that it is, therefore, an inescapable imperative that scarcity be managed. In debt-for-nature investment, economic growth (defined as an increase over time in the level of real gross national product (GNP) per capita, the real level of consumption per capita) through the expansion of commodification of nature and humans is seen as the answer to the threat of scarcity. In this thesis, debt crisis and environmental crisis are analyzed as social processes of land and human transformation. Debt-for-nature is conceptualized as a process of development involving a struggle over the land utilization of extended territories that includes forests, fauna, flora, genes, and communities. This struggle is between NGOs (local and foreign), industry, local native hunters-fishers, cattle ranchers, tourist entrepreneurs, peasant women and men.

This research has its origin in my personal commitment to social justice and ecological health. I write as a founding member of the Latin American Women's Coalition Against the Debt in Argentina in 1990; as a founding member of Women for a Just and Healthy Planet in Toronto in 1992; and as a North American representative of the International Debt Treaty Movement, organized during UNCED Earth Summit in Rio de Janeiro, in 1992.

Some of the concerns that led me to study debt-for-nature investments are:

- that debt-for-nature investment has become a recognized mechanism for generating the local currency needed to finance conservation agendas in Third World countries;
- that debt-for-nature involves the continuation of destructive economic development practices using new concepts such as “sustainable development” (debt-for-nature investment is sustainable development in Third World countries) and Women in Development (WID);
- that debt-for-nature involves a growing role for northern, corporate environmental NGOs in redefining rain-forest nature and livelihood to serve the biodiversity industry;
- and, most importantly, that debt-for-nature does not mobilize local inhabitants against environmental destruction.

The primary data for this thesis were collected in sociological field research, in a number of sites in Costa Rica, during the summers of 1998 and 1999. All interviews were conducted in Spanish and any quotes used in this thesis are my translations. Throughout the thesis, I have obtained permission to use the actual names of all NGO groups and individuals involved, government officials, and community. I also have permission from interviewees to release their names. Nevertheless, in many places in this thesis, where I deemed it necessary for the protection of the individuals involved, the names are changed to avoid recognition. I will specify in the text closer to the presentation of interview data, wherever names are pseudonyms.

Both NGOs using debt-for-nature funds—INBio and WWF-C—were very helpful in my research. Mr Alfio Piva, adjoint director, invited me to visit INBio’s headquarters located in Santo Domingo de Heredia. Mr Tremblay, WWF-C acting Canadian director invited me to visit the Arenal Project’s main office in the Arenal Conservation Area located in Tilaran (in the north-central part of Costa Rica).

SISTEMA NACIONAL DE AREAS DE CONSERVACION C O S T A R I C A

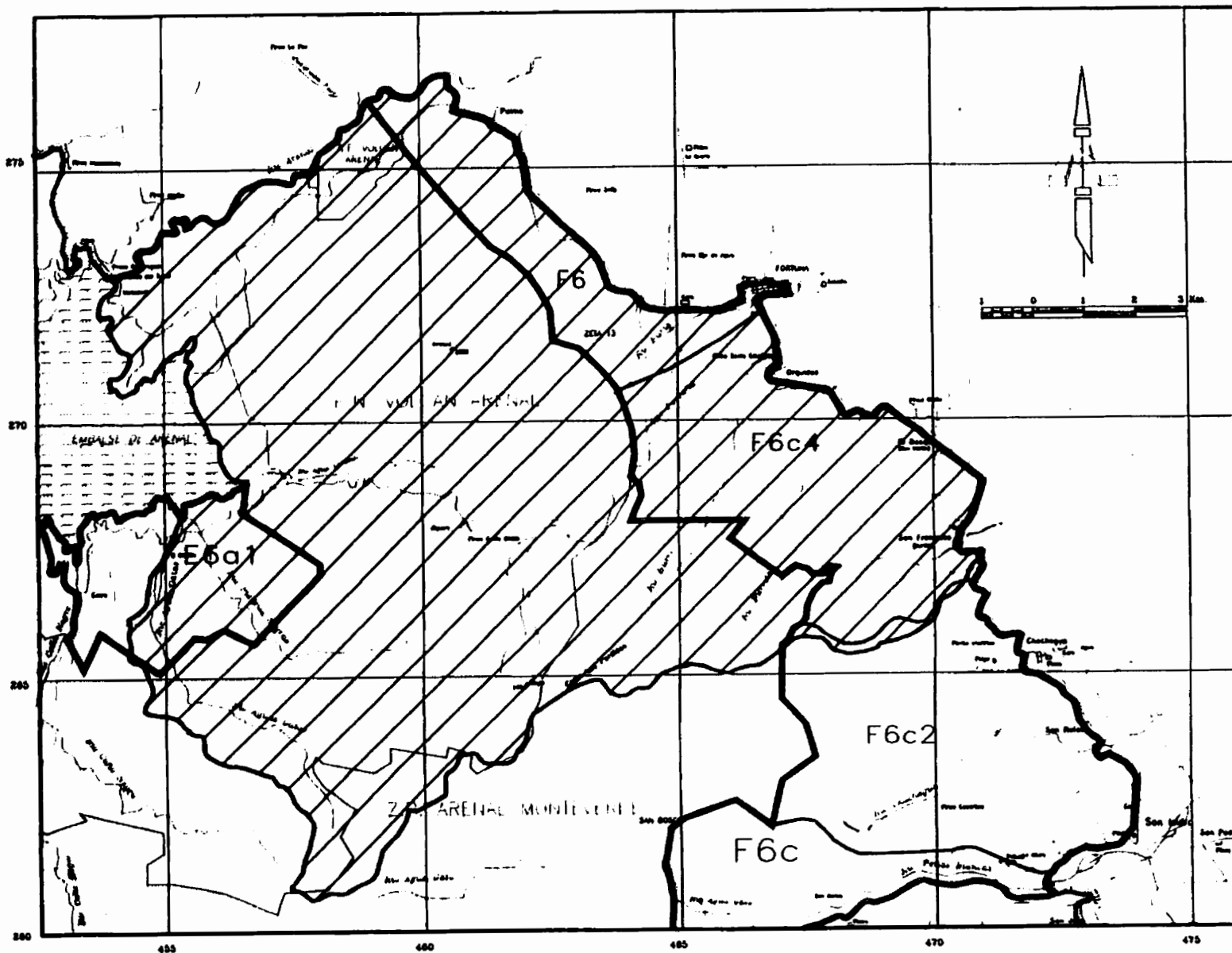
9



**ARENAL CONSERVATION AND DEVELOPMENT PROJECT
PHASE II
PRIORITY WORKING UNITS (PWU): BIJAGUA, RIO ARANJUEZ AND FORTUNA**



PRIORITY WORKING UNIT (PWU) - FORTUNA



SIMBOLOGIA

UTP FORTUNA
CUENCAS
PRIORIZADAS

UPD FORTUNA
LA ALTIMA

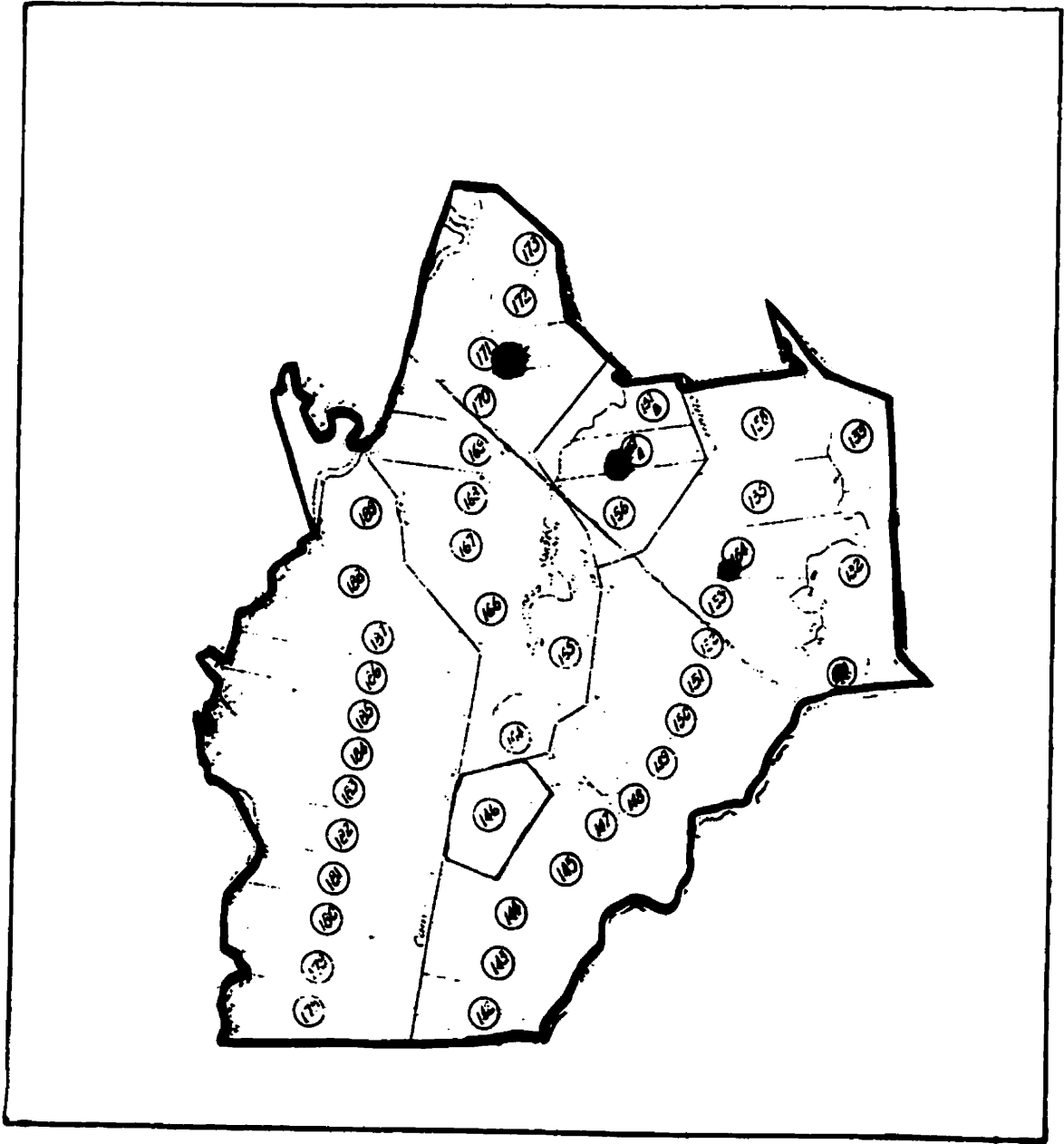
The location of PWU-Fortuna
within the Arenal Conservation
and Development Project



MAYOR CONVENCIONES	
Color	1:50,000
Escala	1:50,000
Proy. UTM	18Q UTM
Coord. UTM	455 260
Coord. UTM	475 270
Coord. UTM	455 260
Coord. UTM	475 270

FUENTE :
BOSQUE, CORDOBA, DEL PLAN GENERAL DEL ARO DE LA
UNION DEL ICA, 1988.
REALIZADO :
CARL JORDAN PEREZ

THE TOWN OF ABANICO



The location of Abanico within the FWU-Fortuna

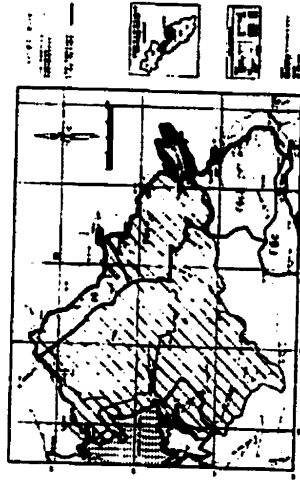


CHART I

CANADA-COSTA RICA DEBT-FOR-NATURE ORGANIZATION

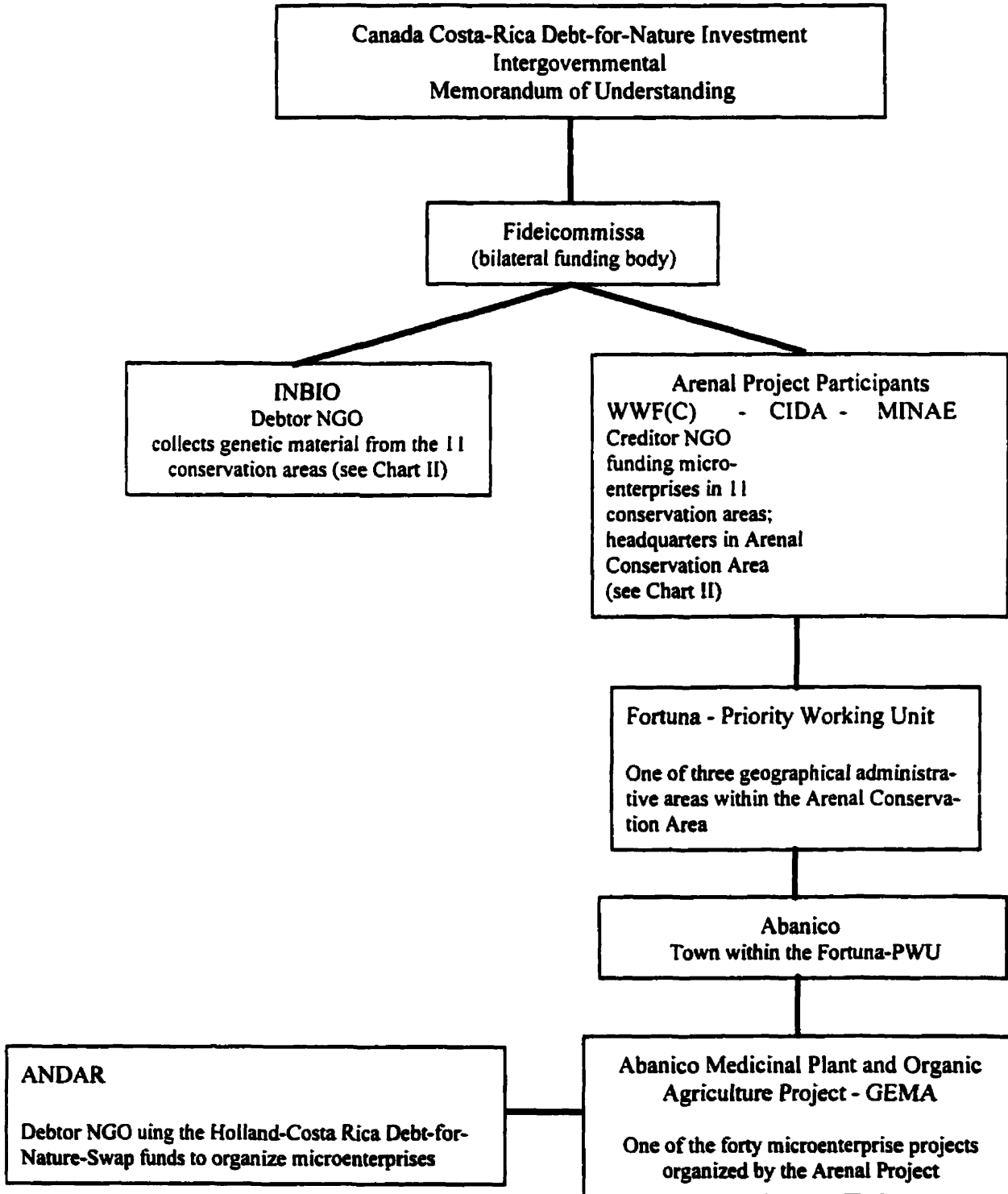
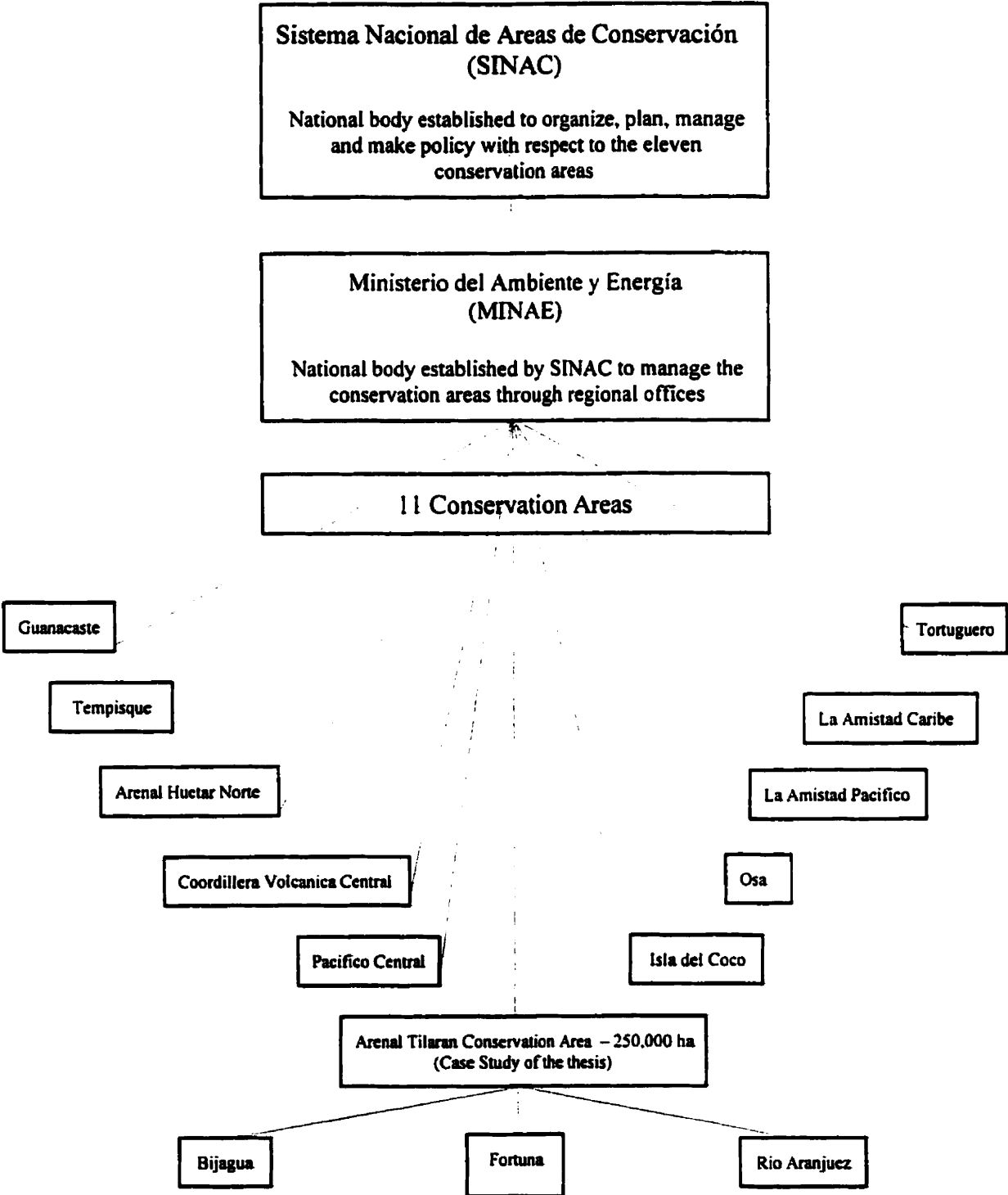


CHART II

COSTA RICAN NATIONAL SYSTEM OF CONSERVATION AREAS



C. Theoretical Aspects

The main focus of this thesis is the local process of sustainable development which is taking place in Costa Rica using debt-for-nature investments to establish micro-enterprises. Debt-for-nature investments are seen as dynamic social processes where local groups take part in making their history, together with other social actors. These processes are seen as struggles in which “external development ideas/agents” (the IMF, the WB, NGOs and government) pressure local groups to provide space to international interests and to organize their security in the international markets.

My analysis shows debt-for-nature investment to be a process of rural change where the implementation of management and sustainable development projects changes the social groups and their relation to the land. It concentrates on the new sources of power and control being created in relationship to nature and to society by debt-for-nature investments. Debt-for-nature investment is analyzed as a dynamic arena of struggle over power and development between the industrial and non-industrial states, transnational corporations (TNCs) (industry), national and foreign NGOs, women and men, people and nature.

Unless we understand the “debt question” and the “environmental question” in the context of all social relations that constitute our reality, under the dictates of patriarchy and capital accumulation, the structural and ideological framework that created these two crises cannot be adequately challenged. Behind the environmental and debt-reduction concerns, restructuring of accumulation at the world level is the aim.

The strategy for sustainable development is not a neutral–technical strategy; it depends on political power shaped by class, gender, and race. To see the final outcome of this affair in strictly economic terms is to miss much of its clearly political and ecological significance.

The Marxist and feminist theoretical framework of this thesis sees development/modernization, using primarily market mechanisms, as deepening oppression. In this framework, the analysis of the system of production and systems of social relations is

combined. Structural factors are seen as important, however not determining or a priori explanations. The importance of historical dynamics is crucial in this study. It seeks a way to connect the various forms of development and power by paying attention to the evolving strategies of investment that frame the social, economic, political, and cultural circumstances.

The author agrees with Marxist dependency theory that maintains we live in a dominant world-system, based on large-scale conquest and colonial plunder, that has produced a world economic and political structure through which corporate interests in the imperial centres benefit from the exploitation of cheap resources and cheap labour in peripheral areas. *Economic Development in Latin America: A Survey from Colonial Times to the Cuban Revolution* written by the Brazilian Celso Furtado (1970) and *Open Veins of Latin America* by the Uruguayan Eduardo Galeano (1974) have been very influential in Latin American thinking. They show that greater wealth for the rich nations ultimately means less of the earth's endowment available for the poor nations. They also argue that poverty of the underdeveloped nations is not a result of a "natural" lagging behind, but the direct consequence of the over-development of rich industrial countries which exploit the so-called periphery. Dependency theorists claim that it is structural processes rather than lack of skills or inappropriate attitudes and behaviours, as presumed in development/modernization theory, that determine underdevelopment.

Underdevelopment within the dependency paradigm is defined as a process whereby a country and communities, characterized by subsistence agriculture and domestic production, progressively become integrated as dependent appendices to the world market through trade and investment. Countries' and communities' production becomes geared to the demands of the world market shaped mainly by developed countries, with a resulting lack of integration between the parts of dependent economies. This dependency means that the most important decisions about prices, trade, investment patterns, macro-economic policies, etc., are made by individuals, firms such as transnational corporations (TNCs), foreign institutions (like the IMF and WB), and governments in the powerful G-7 industrial countries.

According to dependency theory, the structural and historical process of this dependency which began in 1492 with the arrival of Christopher Columbus in America, has been reinforced by the penetration of United States' capital in Latin America since the end of the Second World War and the beginning of the Cold War. Countries were introduced into the world market as service areas for the supply of raw materials to the industrial parts of the world. Oil and natural gas, phosphates and minerals, fruits and vegetables have all flowed to industrial production systems from these societies. The U.S. penetration involved underdevelopment and incorporation, and was achieved through the process of dollarization, unequal terms of trade (unequal exchange), foreign direct investment (FDI), the creation of indigenous institutions (ECLAC), and political structures such as the Organization of American States, to facilitate objectives of capital investments. Apart from expropriating the larger portions of developing countries' surplus, the U.S. also prevented the industrialization of these countries. Dependency and feminist theorists have shown that Third World countries' free resources and low wages are central to the functioning of capitalist patriarchy, even though their contribution goes unacknowledged in the dominant economic theory (Furtado, 1970; Mies, 1986).

Since dependency theory has a range of different theoretical starting points, I have to clarify that I disagree with the United Nations Economic Commission for Latin America and the Caribbean (ECLAC) dependentists that saw or continue to see possibilities for Latin American integration into economic development as it is currently designed. This theoretical accommodation, politically naive and economically simplistic, assumes that development is a cultural problem rather than a problem of power relations. I particularly disagree with the naive belief that investment from the industrial world is intended to industrialize the peripheral world. Where and who would grow the raw material needed for industrial production; and who would buy the products made by the industrial world if Third World Countries produced the same? Furthermore, industrialization is one of the major causes of environmental degradation.

Unlike some dependency theorists, but in keeping with a feminist approach, I believe that the dynamics taking place at the local level are as important as the macro-scale analysis which usually overlooks the social diversity of the development process and resistance to it.

This study is informed by the work of Immanuel Wallerstein (1985), whose understanding of underdevelopment includes non-wage labour forms of market production, marginalization and squatting, an expanded tertiary sector, the emergence of the housewife social category, ethnicity, clientelism, corrupt and oppressive state machineries. According to Wallerstein, these creations are integral parts of the system functioning in order to ensure surplus-extraction. The surplus-extraction is through market mechanisms, therefore, more and more processes have to be commodified, oriented to production for a world market. These commodities move from the periphery to core and are produced by a variegated set of relations of production.

This study also draws on the work of ecofeminists Maria Mies (1986), Mies and Vandana Shiva (1993), Ariel Salleh (1994). These feminists are concerned about global sustainability as much as gender justice and see the two as inextricable. They argue that capitalism appears as a modern form of patriarchal relations in which most women experience a social reality very different from their brothers in capital and labour. They acknowledge that women and men live in a complex, socially-elaborated sex and gender society where men are exploited differently to maintain the process of growth, profit, and capital accumulation. Women do most of the unpaid work and swell the ranks of part-time, contract, and seasonal positions, without security, advancement opportunities, or retirement benefits. This entrenched gender division of labour is so fundamental to the fabric of capitalist society that salaried women even in “developed countries” receive only two-thirds of an average man’s wage (Salleh, 1994). Women’s work makes accumulation possible and the “surplus” women generate in working a double-shift is crucial to the operation of capitalist patriarchy.

This feminist perspective points out that the contradiction between a limited world and “unlimited growth” has been historically “solved” with colonization of the Third World, nature, and women. The battered condition of Third World countries, women, and nature has

disproved economic assumptions that “progress” is a linear, evolutionary process that starts from a “primitive” “backward” stage and, driven by the development of science and technology, proceeds to unlimited progress and advancement (Rostow, 1970). This belief overlooks or minimizes the economic contribution of women and assigns them a secondary status. In cases where women’s housework and non-market production is counted, it is not supported in policy-making. The spread of the market economy increasingly forces women to take on more jobs or tasks, as they are “shock-absorbers” for economic and social crisis. Women usually are gendered into labourious domestic chores. However, if the household needs her to do extra work, to earn an income, or to help a family member with their work, her workload increases. Furthermore, the IMF and the WB efforts to open Latin American economies to the international market created a tendency to see women’s unpaid labour and time as an unlimited resource to be tapped in order to promote the efficiency of free market policies and to deal with the short-fall in access to social services (Dzodzi, 1995).

D. Description of the Problems

Proponents of debt-for-nature investment claim that debt-for-nature helps to reduce the burden of foreign debt in Third World Countries, at the same time as it confronts the environmental crisis (UNESCO, 1991; WB Paper #11; Asiedu-Akrofi, 1991). That agenda is seen as sustainable development. And sustainable development approaches argue that the poorest countries have only one route to sustainable development, this is, expanding natural and human capital (Hamilton, 1999).

This economic perspective put forth by the WB, the IMF, and UNESCO (1991) reduces the interconnectedness of humans and nature to one measure, that of energy flows in ecosystems expressed as a market cost. Reducing everything to the one dimension of monetary value, conventional economics has relegated the debt and the environment to the margins. In this framework, profit and the rate of profit on real capital, or the rate of interest on monetary assets in the world market, are the measure of success of micro-economic world and macro-economic processes. The rates of profit and interest greatly influence the dynamic and direction of economic and social development (Altvater, 1994).

Why do most environmentalists, like economists, generally use the market as the mechanism for conservation? Because their conservation approach sees nature and human nature as production factors representing new types of raw materials that need to be managed and appropriated.

The conservation approach which treats nature as a production factor or input to be managed according to the markets, appropriates biological resources (organic material, genes, etc.) to be engineered, patented, and owned for corporate profit. Thus, only those properties of a resource system which generate profits through exploitation and extraction are taken into account, and properties which stabilize ecological processes but do not generate corporate profit are ignored and eventually will be destroyed (Mies and Shiva, 1993).

When environmentalism is embedded in a monetarist framework, it is directed towards the process of linking nature and human nature with markets, particularly international markets. It works explicitly with reference to the international markets in which the forces of supply and demand are relied on to reach equilibrium in order to provide an optimum allocation of resources (returns on factors of production).

Any attempt to define debt-for-nature as distinct from economic development will prove to be untenable, as in the case of Canada–Costa Rica debt-for-nature. From the outset, there is a dynamic connection between economic development and debt-for-nature swaps. Debt-for-nature is a result of the commercial bank's investment. Debt-for-nature investment is so embedded in economic development that there is no possible way to analyze its life outside the paradigm. Debt-for-nature links the exploitation of nature and human nature through the use of markets. Chapter One traces the link between economic development and debt-for-nature swaps in more detail. Economics, which stands in contradiction to ecological processes, offers money not only as a way of solving economic and ecological problems but also as the medium of their ongoing management to compensate for and rationalize ecological degradation.

As I proceeded with this study, my terminology changed from debt-for-nature swaps to debt-for-nature investment to highlight their embeddedness in ongoing capitalist development. In this thesis, I propose to analyze debt-for-nature investment as a dynamic, interwoven process with reference to the discourses of economic development, sustainable development, and women in development. I believe that the arbitrary separation of ecosystems into Conservation Areas to accelerate the exploitable domains and commercial corridors will deepen the conditions of debt (poverty) and environmental destruction. In the Arenal Conservation Area, site of this study, the NGOs' failure to bring the broader issues of power and development into the analysis, and to address the structural conditions shaping the environmental crisis, means they have defined communities as a threat to local environment. In this framework, Third World countries emerge only as consumers and the poor only as exploiters of renewable resources such as water, biomass (trees, crop residues, and grass cover), and soil. Industrial societies are seen as the only producers (Mies and Shiva, 1993). From this perspective, Third World countries are responsible for the destruction of their biological wealth, and the industrial societies alone, through scientific knowledge, have the capacity to preserve it. As INBio and the Arenal Project exemplify, scientific knowledge is used to further separate nature from communities and to rearrange nature and human nature for different levels of exploitation depending on supply and demand.

In order to address issues of survival it is necessary to acknowledge that the basic assumptions of economics, which have shaped the ways of being of the developed and underdeveloped world, are classist, sexist, racist, and environmentally hazardous. In this thesis, I recognize that the debt crisis and the environmental crisis are interconnected. Debt crisis affects the life of the majority of the world's population and environmental crisis determines the life of us all. The preconditions of these two crises are the subordination of nature, women, and colonies. It is not possible to ignore this any longer. The ecology question, the women question, and the colonial question have political, ecological, and ideological dimensions. Each of them addresses people in their most intimate relations. The *ecology question* addresses vital relationships between people and nature, the very nature that created the life conditions. The *women question* addresses the crucial relationship between women and men, the very nature and dynamic of human relationships. The *colonial question*

addresses the social division of labour, the system of exploitation and oppression under which the majority of the world's women and men live, and the very condition of ecological and human crisis. Then, the possible solution to debt and environmental crisis depends on the possibilities of transforming the socio-economic political relationship among countries, between genders, and between people and nature.

E. Chapter Outlines

The thesis is divided in two parts:

Part I of this thesis (three chapters) examines the historical and economic genesis of debt-for-nature investments in the context of economic development in Latin America from 1950 to date. It links Costa Rica's economic development from 1981 to 1989, and its sustainable development from 1989 to date, to industrial world events. The first three chapters present the theoretical debates of economic development and sustainable development, as well as the origins of the debt-for-nature swaps.

Part II of this thesis (five chapters) examines the case of Canada-Costa Rica debt-for-nature investment. The central role is played by environmental NGOs, the implementors of sustainable development: the *Instituto Nacional de Biodiversidad* (INBio) is the debtor-NGO and the Arenal Conservation and Development Project, managed by the World Wildlife Fund-Canada (WWF-C) is the creditor NGO.

Data for this thesis have been gathered from the documents of the World Bank, the International Monetary Fund, Canadian and Costa Rican governments, NGOs and local groups. It also draws on interviews with Costa Rican academics, Costa Rican government officials, NGO personnel of INBio and WWF-C, community members in Fortuna Priority Working Unit, and from participant observation in the city of Fortuna, and the towns of Z-Trece and Abanico. A more detailed description of the sources and methods of data collection is given at the beginning of each chapter.

An Environmental Feminist Analysis of Canada/Costa Rica Debt-for-Nature Investment: A Case Study of Intensifying Commodification.

Part I: Historical and Economic Genesis of Debt-for-Nature Swaps

Chapter One, "Investment and Economic Development in Latin America – 1950 to Date," reviews the economic development paradigm, concentrating on the history of foreign investment in Latin America. Economic development is linked to development/modernization during the Cold War which organized the structural conditions that foster debt-for-nature investments. Since the 1970s, commercial banks' debt has played the defining role in development in the Latin American region. This chapter examines the connections between debt and environmental crisis and the deepening of social exclusions, as well as explaining how and why debt-for-nature investments emerged.

Chapter Two, "Debt Crisis and Economic Development in Costa Rica – 1981 to 1989," studies Costa Rica's economic and political development changes during the worst years of the debt crisis, 1980-1990. Costa Rica, strangled by lack of cash and foreign exchange to pay its debt sold its geo-political location to virulently anti-communist U.S. to fight against the Sandinista government in Nicaragua. The chapter also highlights the working and living conditions of Costa Rican rural poor, especially women.

Chapter Three, "Environmental Crisis: Sustainable Development in Costa Rica – 1989 to Date," reviews relevant literature on sustainable development. Sustainable development is organized around the World Bank belief that the poorest countries cannot substitute man-made capital for depleted natural resources because they lack cash and foreign exchange, thus, the only route to sustainability is by expanding nature and human capital to sell in the market. The chapter traces the rise of sustainable development in Costa Rica using debt-for-nature investments. The separation of ecosystems into Conservation Areas with the purpose of biodiversity resource mapping has become a dynamic arena of struggle over power and development.

Part II: Canada/Costa Rica's Case Study. The National Institute of Biodiversity (INBio) (Debtor NGO) and The Arenal Conservation and Development Project—World Wildlife Fund – Canada (Creditor NGO)

Chapter Four, “National Institute of Biodiversity (INBio) – Commodification of Nature,” describes INBio’s origin, organization, research agreements, and conservation scheme. I concentrate on the role of Costa Rica as biodiversity producer. INBio’s conservation scheme transforms nature into a reservoir of material resources to be exploited and turned into profit through prospecting and biotechnology. The chapter highlights INBio’s problematic sustainable development. I concentrate on describing nature and community knowledge appropriation.

Chapters Five and Six present the history of Canada–Costa Rica relations in two phases. Phase I (1991-1995) and Phase II (1996-2000). Phase I provides the historical, social, and economic context of debt-for-nature, and the background for the examination of the Abanico Medicinal Plant and Organic Agriculture Project.

Chapter Five, “The Arenal Project: Phase I, 1991-1995 (Commodification of Nature),” examines Phase I, which is based on an agreement signed in 1991 between the Government of Canada and the Government of Costa Rica, and between Canada and the World Wildlife Fund-Canada (WWF-C). During Phase I, the Arenal Project explored the economic-ecological linkages of Costa Rica’s eco-systems. *El Plan General de Uso de la Tierra* (General Plan of Land use) (hereafter referred to as Land Plan), published in 1993, using geographic coordinates classified biodiversity exploitation according to the characteristics of the territory and its biophysical potentialities. The chapter identifies the different powers at play in the Arenal Conservation Area, and shows how this debt-for-nature project changes the relationship of local communities with their land.

Chapter Six, “The Arenal Project: Phase II, 1996-2000. Fortuna Priority Working Unit (PWU), Background and Context of the Abanico Medicinal Plant and Agriculture Project (Commodification of Nature and Human Nature),” provides a historical, social, economic description of the Fortuna Priority Working Unit which encloses both protected reserves and

buffer zones in the Arenal Conservation Area within which the Abanico Medicinal Plant and Organic Agriculture Project is located. It thus provides the background and context of this project, examined in the next two Chapters, as well as answering questions with respect to the degree of involvement of local community members in debt-for-nature swaps, the different powers at play in the local community, and the response of local community members to changes brought about by debt-for-nature swaps.

Chapter Seven and Chapter Eight focus on the Abanico Medicinal Plant and Organic Agriculture Project organized as a community development and Women and Development initiative by WWF-C with debt-for-nature funds and the participation of ANDAR that uses Holland-Costa Rica debt-for-nature swap funds.

Chapter Seven, "The Abanico Medicinal Plant and Organic Agriculture Project," reviews some literature on Women in Development (WID) and presents a general description of the local micro-enterprise project, Abanico Medicinal Plant and Organic Agriculture. Micro-enterprises, such as this, are income generating units for low-income people promoted by public policies and developed by NGOs using international aid funds such as debt-for-nature investments. This study on the Abanico women's enterprise reveals the general tendency of many of these micro-enterprises. The chapter uncovers how debt-for-nature investment does not merely appropriate nature, it turns nature into a commodity in which capital remakes nature and its products biologically and physically, politically and ideologically. It also questions the extent to which debt-for-nature addresses the community immediate needs.

Chapter Eight, "Women's Work and Resources in the Abanico Medicinal Plant and Organic Agriculture Project," presents and analyzes the data collected on women's income-generating work, women's household work, and women's community work. This is based on the interviews and participant observation with the nine women members of *Grupo Ecologico de Mujeres de Abanico* (GEMA), who are responsible for the Abanico Medicinal Plant and Organic Agriculture Micro-enterprise.

Four appendices are included: the first details the Memorandum of Understanding Between Canada and Costa Rica; the second is the project presented by INBio to the Canada-Costa Rica FIDEICOMMISSA; the third is a detailed budget of the Arenal Project presented to the Canada-Costa Rica FIDEICOMMISSA, and the fourth is an Epilogue describing one small part of the action component of this research, an aspect which has not been reported in this thesis but was nevertheless significant.

Part I: Historical and Economic Genesis of Debt-for-Nature Swaps

Part I of the thesis examines the inception of debt-for-nature investments in the Latin America region, and at the national level in Costa Rica. Chapters One to Three are rooted in understanding investment as a living social process that takes into account social structures like class and patriarchy in which human actors appear and are dynamic part of the process.

My approach is a feminist Marxist-relational environmental perspective which sees society as interconnected. Using Sherman (1993), relational methodology I move toward the concrete, desegregating social structure into “ideas” (including general ideologies) and “institutions” (including social as well as political institutions). I separate the economic structure into “forces of production” (including land, paid and unpaid labour, capital and technology) and “relations of production” (including class and gender relations). “Ideas” are explained by institutions, forces, relations and previous ideas; “social and political institutions” are explained by ideas, forces, relations, and previous institutions; “the forces of production” are explained by ideas, institutions, current relations, and previous relations; “the relations of production” are explained by ideas, institutions, forces, and previous relations. These four categories constitute the whole of society. Methodologically, this implies that social structure (economic structure, previous social structure) and economic structure (social structure, previous economic structure) interpenetrates relationships of everyday life and are interconnected with the environment. I understand environment as an economic, social, political and cultural part of our lives. Women and nature are seen as social processes necessarily contextualized and embedded in relationships organized by socio-economic conditions produced by investments for growth, capital accumulation, profit and technology. Therefore, the sexual division of labour and the environment are dynamic variables that change with modifications in the organization of production-reproduction of the society. However, I should warn you that this framework and the categories named above guide and shape, without determining my thinking, and remain largely implicit in the presentation of my findings.

Chapter One

Investment and Economic Development in Latin America—1950 to Date

This chapter examines the persistent aspects of oppression/exploitation developed historically by the dynamics of capitalism from 1950 to date. It traces investment history and patterns in Latin America during the Cold War. Investment and its consequences are analyzed in different periods and contexts. Through tracing investment, the chapter allows the observation of a long-standing collective tragedy and the enormous catastrophe that Latin Americans have been obliged to live with.

According to Mexican professor Jorge Castaneda (1994), from the *Universidad Nacional Autonoma de Mexico* (UNAM) (the Autonomous National University of Mexico), investment for economic development in Latin America countries began when tensions between the United States and the Soviet Union were heightened after World War II. The Soviets and Cubans were feeling trapped by the nuclear encirclement policy of the West while the U.S. and its European allies perceived themselves as increasingly vulnerable because of what they regarded as Soviet-sponsored aggression against their interests in Latin America. Investment for economic development thus become one of the single most important weapons for control of Latin America (Castaneda, 1994; Rifkin, 1993).

The American and European powers took this opportunity to pursue their interests by promoting the commonly-accepted perception that if poor countries were not rescued from their poverty, they would inevitably succumb to communism. Wolfgang Sachs (1990), an influential German environmentalist, argues that in 1948, the economic conception of poverty found an ideal yardstick in the annual per capita income, when the World Bank defined as poor those countries with an annual per capita income below US\$100. The annual per capita income measure transformed the majority of the world's people into "poor" subjects. And, if the problem was one of insufficient income, the solution was clearly economic growth. Development thus became the universal truth. For Arturo Escobar (1995), a Colombian Associate Professor of Anthropology at the University of Massachusetts in

Amherst, economic development became one of the single most important strategies for extending the political and cultural influence of the West and for advancing the industrialization of civilization.

The discourse of economic development, at that time, promised elimination of poverty in the Third World countries through different kinds of investment in the economy. Since then, investment has been based on Official Development Assistance (ODA) in the 1950s and the 1960s, commercial bank investments in the 1970s, multilateral investment (IMF-WB) in the 1980s, and portfolio investment and debt-for-nature investments in the 1990s.

This chapter argues for the rejection of the view that economic investment is a value-free analytical category and elaborates the meaning of investment as a social process. It explores the structural conditions that foster investments and their social consequences. For instance, the IMF and WB policies undermined the social cohesion of a number of Latin American countries, many of which ended in civil war. The chapter moves from the concrete to abstract, academic debates about the meaning of development, and the intersection of economic investment with class and gender oppressions.

A. Economic Development in the Industrial World at the End of the Second World War

To understand the history of the debt and environmental crisis currently being experienced in Latin America, I link the economic developments in the industrial world and non-industrial world at the end of the Second World War, when the victorious powers planned the reconstruction of a world battered by both the war and the depression which had preceded it. Jeremy Rifkin (1993) describes the industrial world in the '50s as based on accumulation of material possessions, material productivity, and exploitation. By that time, he says, the industrial world had seized control of land, ocean, atmosphere, electromagnetism spectrum, and the gene pool. It also had already mined, exhumed, manipulated, and consumed other peoples' spheres and realms. In other words, by the 1950s, the industrial world had already

developed an economic system that allowed one-fourth of the world to acquire 80 percent of world resources.

After the Second World War, the victorious powers made important decisions to maintain their privileges by a number of means:

a) The United Nations as well as three other institutions were established to take care of economic matters: the International Monetary Fund (IMF) whose role was to make short-term loans to countries which were having temporary problems in balancing their import and export books; the World Bank (WB) whose role was to make long-term loans to underdeveloped countries for development projects (industries, dams, nuclear powers); and the General Agreement on Trade and Tariffs (GATT), now the World Trade Organization (WTO), whose role was to regulate trade and tariff policies among its members.

b) Gold bullion and the U.S. dollars were made interchangeable. In the 1960s, the Vietnam War was expensive for the United States and gave rise to a large deficit. Instead of taxing its own citizens to pay for the war, which would have been politically unpopular, the U.S. relied on the willingness of the international community to take an unlimited supply of dollars. The U.S. simply printed more dollars which were then used to pay for the war and to buy properties in other countries. Since the U.S. dollar was linked to gold, it caused inflation globally and led to what came to be called the Euromarket as international banks dealing in American dollars began to open up shop in Europe. The banks loaned U.S. currency to Third World countries at relatively low, but floating, interest rates (Social Justice Committee of Montreal, 1993). As the Vietnam War escalated, the U.S. continued to pay for the war by printing more dollars. This made some of the other powers nervous and they quietly began to exchange their holdings of U.S. dollars for gold bullion which consequently reduced the U.S. supply of gold. In July 1971, President Richard Nixon decreed unilaterally that the dollar would no longer be interchangeable for gold. Since there were so many U.S. dollars around, they immediately dropped in value which meant that countries left holding U.S. dollars lost a combined total of about \$68 billion (GATT-Fly, 1985).

c) Eurobanks' deposits (Eurocurrency) were increased. In 1974, Oil Producing and Exporting Countries (OPEC) increased the price of oil four-fold. The major effects were: increase in oil prices; OPEC money increased the Eurobanks' deposits (Eurocurrency); inflation; and raised interest rates. The combination of a greater need for money (to buy oil) on the part of the Third World and a greater supply of money in the Eurobanks led the banks to increase their loans to Third World countries. The loans were then used for economic development (industry, trade, interests payments, direct investment, infrastructure, and military equipment) (Ugarteche, 1980; George, 1988).

d) Adoption of supply side/monetarist policies. In the 1980s, the industrial world went into recession and, led by U.S. President, Ronald Reagan, and British Prime Minister, Margaret Thatcher, they adopted monetarist policies which meant pushing interest rates up to bring money into their countries. At the time that Latin American countries had obtained the credits, the Euromarket operated on the basis of medium- and long-term credit with interest ranging between two and four percent. After 1978, these credits were replaced by short-term ones floating-interest rates which left the borrowers with most of the risk. Two years later the short term credits were linked with the increase of interest rates up to 16.6 percent in the U.S. (Roddick, 1988).

The number of loans granted and the increase in interest rates prevented the countries from repaying their debts. In 1982, the Mexican crisis marked the beginning of the generalized debt crisis. The high interest rates deliberately set by western governments, led by the U.S., caused the debt crisis. With the increase of interest rates, Latin American debts escalated rapidly so that by 1983 (and continuing since then) more money was leaving Latin American countries for the industrial centres than was going the other way. With the debt crisis, all the commercial banks made record profits on their Latin American loans.

e) Adoption of portfolio investments. At the end of the 1989, the collapse of the Soviet Union enable the U.S. to completely dominate Latin America. In the 1990s, the industrial world, through the IMF and the WB policies, facilitated entry into Latin American markets in the form of short-term portfolio investments. Under the Brady Plan (1989), the North

American Free Trade Agreement (NAFTA) (1994) and the Enterprise Americas Initiative (EAI), the banks and the multilateral institutions, who previously made the loans, were replaced by bond and stock markets that are traded on the financial market.

Table 1 shows that between 1980 and 1997, Latin America's total external debt, and its debt service, increased three times due to the increase of interest rates in 1980.

Table 1

Latin America and the Caribbean

A) Total External Debt, and

B) Debt Service (U.S. \$million)

Year	1980	1990	1991	1992	1993	1994	1995	1996	1997
A)	257,263	475,368	492,418	509,452	554,070	589,718	637,444	656,388	677,885
B)	38,777	37,931	36,620	45,318	52,300	56,300	71,396	95,310	106,924

Source: Global Development Finance (1998). A World Bank Book.

Since the 1980s, growing concerns over debt creating poverty and environmental destruction has paralleled preoccupations over economic restructuring. Economic restructuring is organized by free markets where supply and demand should restore equilibrium and assure satisfaction of consumers' preferences.

B. Economic Development Theory and the Economic Commission for Latin America and the Caribbean (ECLAC)

1. Economic Development Theory

Development theorists see economic development as a transition process from one situation to another which confers upon the processes of accumulation and development a progressive, orderly, and stable character that would culminate, in the late 1950s and early 1960s, in modernization and "stages of economic growth theories" (Rostow, 1960).

Development proponents hold the view that the transition to industrialization/ modernization is central to development. Industrialization, privileged as the way to expand the benefits of capital accumulation, is the only way in which poor countries can avoid the structural disadvantage they experience in the domain of international trade—mainly primary producers confronted with the higher prices and productivity of goods coming from the industrialized countries. Development faith in science and technology make industrialization and development planning key to development economics.

The underdeveloped economies were thought to be characterized by high levels of rural underemployment, low levels of industrialization, disadvantage in international trade, and a set of obstacles to industrial development. In order to modernize underdeveloped societies, these countries had to overcome the traditional values, institutions, and patterns which prevented them from adopting modern techniques and organizations (Rostow, 1970). Rostow likens the process of economic growth to an airplane about to take off, and identifies five stages in the path towards modernization. The “take-off” stage is when new industries that have been created during the “second stage” of development would expand and reinvest their profits. In much the same way, Parsons (1970) argues that higher levels of technology and more formal institutions characterize complex societies (in which social units specialize in only a few tasks) while the opposite is the case of simple societies (that perform a multitude of tasks). Following the same line of thought, Hirschman’s (1969) trickle-down theory of development proposes to enrich “the rich,” because the richer they get the more riches “trickle down” to the poor.

Economics was called upon to reform societies perceived as underdeveloped. Increased specialization thus becomes associated with the higher efficiency and overall productivity, while simple societies were considered less productive and poorer. The characteristics built into economic development were based on the assumption that there is a unilinear route to development. Development experts, usually males, decide on the most efficient way to allocate resources. Maria Mies (1986) disputes development theory and argues that the law of economic development is always a contradictory and not an evolutionary one. Mies argues that the progress of European and North American “Big Men” is based on the subordination

and exploitation of their own women, on the exploitation and killing of nature, on the exploitation and subordination of other peoples and other lands. Progress for some thus means retrogression for the other side; “evolution” for some means “devolution” for others; “humanization” for some means “de-humanization” for others; and development of productive forces for some means underdevelopment and retrogression for others. The rise of some means the fall of others. Wealth for some means poverty for others. The reason why there cannot be unilinear progress is the fact that ... the predatory patriarchal mode of production constitutes a non-reciprocal, exploitative relationship. Within such a relationship no general progress for all, no “trickling down,” no development, is possible. (Mies, 1986:76)

Escobar (1995) refutes development theory and argues that behind the humanitarian concerns and the positive outlook of this strategy, the reorganization of power at the world level is the aim; therefore, new forms of power and control, more subtle and refined, are put in operation.

Samir Amin was the director of the Third World Forum in Dakar in 1996. In 1995, Amin argued that development economics, born from neoclassical theory, is the rationalization of the hegemonic class interests of the U.S., especially when it is being challenged widely and openly, in order to: a) unify the core nations of the capitalist system to avoid the spread of communism; b) find ways to invest surplus capital that had accumulated during the war (higher rates of profit abroad); c) secure control of raw materials; d) expand overseas markets for U.S. products; and e) spread a system of military tutelage. Alice Schlegel’s work (1977) argues that dominant modes of perception based on reductionism, duality, and linearity are unable to cope with equality in diversity, with forms and activities that are significant and valid, even though different. Schlegel says that the reductionist mind renders women, nature, and non-western people as “deficient” and in need of “development.”

Between 1948 and 1958, development theories claiming dual worlds constructed its object, the “underdeveloped economies.” Through knowledge and power, the countries outside of the core countries—the “poor,” the “malnourished,” the “illiterate,” the “rural,” as well as

nature and women—considered deficient were brought into the domain of development (Escobar, 1995).

2. Import Substitution Development

Development in Latin America relied on the production of knowledge at the United Nations Economic Commission for Latin America and the Caribbean (ECLAC) by Latin American men educated in the United States and Europe. They provided a picture of the Latin American region's social and economic problems and resources (United Nations. Economic Commission for Latin America, 1950). But ECLAC challenged orthodox economic theory and rejected the international market as the first stage of industrialization because it harmed the poor countries and proposed state-sponsored industrialization through "import substitution"—that is, producing at home what was previously imported. This model was concerned with creating the purchasing power necessary to sustain the region's internal markets and with generating a much more integrative dynamic of development. Development/modernization theory in Latin America was documented and criticized by the ECLAC economists based on an empirical demonstration of the historical deterioration of the terms of trade against primary goods for the countries of the periphery (Prebisch, 1971). The deterioration of the terms of trade was seen as a reflection of the fact that the advances in technological progress were concentrated in the industrial centre. Raul Prebisch, former director of ECLAC, argued that the lack of industrialization severely limits access to foreign exchange—the crucial component for economic growth that determines the capacity to import capital goods (Prebisch, 1982).

ECLAC also provided a more complex view of development and demonstrated greater concern for the standard of living of the poor. But ECLAC saw Latin American future in terms of U.S, Europe, and Japan. In the eyes of ECLAC, like in the eyes of economic theory, development remains a process of growth, capital accumulation, profit and technical progress.

C. Latin American Development—Phases of Investment

Convinced that the Soviet Union was launching an offensive in Latin America, the United States and other industrial nations have spent billions in defensive programs. Economic development was the approach to political security. Development focussed on the rates of growth of output (national production) and income as the fundamental variables, and used the rate of investment as a key factor for economic development. Development expansion was accompanied by capital movements according to the economic activity the powers privileged. Investment was oriented to assure influence zones, but political and economic interests of the powers make it difficult to determine the brunt of each one (Fajnzylber and Martinez, 1976). Since then political and economic interest have been included in the concept of economic development.

In the Latin American development strategy we can distinguish four phases: the first phase is one of economic growth driven by Official Development Assistance (ODA) and foreign direct investment (FDI); the second is of economic growth driven by commercial banks; the third is of economic growth driven by private sector foreign investment supported by the International Monetary Fund and the World Bank; and, the fourth phase is one of economic growth driven by Portfolio Investment and Debt-for-Nature Swaps.

1. First Phase—Foreign Aid and Foreign Direct Investment

In the 1950s and 1960s modernization was assumed to be secured on the basis of public and private sector industrialization programs funded by resource transfer in the form of foreign aid, such as Official Development Assistance (ODA), and foreign direct investment. ODA priorities in Latin America and the Caribbean have paralleled industrial countries' own political and economic interests. Traditionally, ODA has been aimed at the creation of the infrastructure needed for foreign investment (Carty and Smith, 1981) and at stopping communism (Castaneda, 1993).

Table 2

Foreign Aid and Foreign Direct Investment in Latin America
(Millions of Dollars)

Years (Average)	Loans (Aid)			Foreign Direct Investment			Net Inflow	
	Medium Term (1)	Short Term (2)	Gross Interest Paid (3)	(1+2-3) Balance (4)	Net Inflow (5)	Profit Remit- tances (6)	(5+6) Balance (7)	(4+7) Total Balance (8)
1961-1965	615	-71	410.6	133.6	330.8	1147.2	-816.4	-682.8
1966-1970	1282.8	453	885.6	850	726	1676	-950	100

Source: Robert Devlin (in *Latin America and the Transfer Problem*, 1987: 78).

Development in Latin America during this phase was intended to counteract growing nationalism (Castaneda, 1993; Escobar, 1995). By the late 1960s this nationalism was seen as an impediment to growth as evidenced by the fact that Latin American countries had their own dynamism that was different and sometime antagonistic to the metropole. As we can see, U.S. interests clashed with the nationalist Latin American governments in Mexico (Cardenas), Brazil (Vargas), Argentina (Peron), Peru (Velasco Alvarado), Ecuador (Velazco Ibarra) and Bolivia (Paz Extensoro). Pushed by leftist groups, these governments, following ECLAC advice on a more integrative dynamic of development, wanted to integrate the region more closely into the national economy and attack basic problems such as food production, roads, and land tenure. All of them were anti-landlords and representatives of industrial bourgeoisie which could not develop without international capital.

For these governments development meant emphasizing social justice over economic performance (improving the human potential through education, health care and motivation, subsidies over fiscal rigour, employment over efficiency, national control over natural resources, recovering industries from foreign controlled-nationalization, establishing a minimum wage, reducing inequalities over competitiveness, increasing social spending over controlling inflation; furthermore, unionizing workers, giving them the right to strike, enacting labour legislation, and land reform (Escobar, 1995). Under pressure from leftist

groups, these governments had “created ramshackle, corrupt and inefficient but at least partly functioning welfare states to protect part of the population from poverty, inequality and exclusion” (Castañeda, 1994: 4). These governments were called populist-dictatorships. Nonetheless, liberal democracy was emerging as a fundamental component of national life.

In order to follow its own industrialization path (import substitution), nationalization in key sectors of the economy attempted to ensure that Latin American governments would never again be threatened by transnational corporations operating in their countries. The frustration of the U.S. with Latin American governments’ nationalism progressively escalated during the 1960s. The Cold War brought economic development to a new stage. The Kennedy administration in 1961 designed the modernization of Latin America through the *Alianza para el Progreso* (Alliance for Progress), and the *Doctrina de Seguridad Nacional* (Doctrine of National Security). These developments had two premises: a) the need to expand the international banks’ interest through credits; b) the need to tackle the increased unrest in Latin America arising from the failure of development to include more than a half of the Latin American population. The unrest of the students in Mexico in 1968, the poor- and middle-class uprising in Peru in 1965, and in Bolivia in 1967, due to development failure, were seen as communist agitation. The Kennedy administration in the U.S. used its influence with the military to manipulate the internal political system. There is extensive material on the failure of its invasion of Cuba that produced the Cuban missile crisis; on the assassination of President Rafael Trujillo in the Dominican Republic, on the assassination of the Guatemalan president Jacobo Arbenz, in 1954, after he nationalized the United Fruit Company’s lands to distribute among the landless peasants; and on the overthrow of President Joao Goulart of Brazil (“The John F. Kennedy National Security Files,” 1996). Since then economic development or modernization practice has been openly sustained by means of arms.

2. Second Phase: Commercial Banks

In the second phase, economic growth driven by commercial banks was seen as the key to development. By the early 1970s, with the monetarist school in power in the U.S., Official Development Assistance declined rapidly as a percentage of the total resource transfer and there was a switch from official to private sources of funds - the commercial banks. The commercial banks, according to so-called "outward-looking" development policy, could more efficiently fulfil the role played previously by the aid organizations (Corbridge, 1993).

The new modernization paradigm was closely linked to:

a) the international banks' interests. What brought the commercial banks into Latin America? According to Ugarteche, "The increase of the oil price was a positive factor which bolstered Latin American credit capability, because most of them were oil exporters or were developing the oil industry" (Ugarteche, 1980: 50); and

b) the demands for industrialization and increased militarization. Much of the world's inflation that occurred during the 1970s was caused by U.S. spending on its war against Vietnam. Then the U.S. chose to fight this inflation with an increase in interest rates that created the debt crisis in 1981 (GATT-Fly Report, 1987).

Due to the deterioration of the terms of trade for Latin American countries expressed in Balance of Payments (BOP) deficits the world banking system grew stronger after 1970'. Combined with the banks' interest to expand credit operations, due to an excess of capital in the industrial countries this led to mushrooming of international commercial loans to Third World countries. Latin America, in particular seemingly began to offer a source of profits for the U.S. and the European banks who began a fierce struggle with their Japanese rivals. By 1972, commercial banks were creditors of 32 percent of the Latin American debt. In 1975, the banks provided 50 percent of the credits. U.S. banks in 1977 held 53.4 percent of the total international bank credit. In 1978, commercial bank credits were the sources of two-thirds

of the debt. By 1982, six countries—Argentina, Brazil, Chile, Mexico, Peru and Venezuela—received 92.3 percent of the Eurodollars (Ugarteche, 1980).

By the late 1960s and the beginning of the 1970s, demand side development economics (Keynes Theory)—where government action is going to eliminate economic fluctuations, provide for full employment through appropriate state spending, investment, and fiscal and budgetary policy—gave way to the supply side model (Friedman School)—where government is seen as inefficient and wasteful. Supply side models promote growth plus distribution strategies, export-led growth, and international monetarism. Neo-conservatives or neo-liberals (I will use both terms interchangeable), who advocate using the state for accumulation, declared that it is crucial to keep the state out of economic life and to reduce its role in general to a minimum. This approach is known as “laissez-faire” (Friedman, 1982).

Economic development, dominated by global forces, integrated Latin American countries into the unregulated private global markets and encouraged an increase in net public and private foreign indebtedness. An increased portion of this debt is of a short-term nature and thus highly sensitive to changed expectations on the part of foreign money managers.

Table 3 shows the rise of the commercial bank’s loans to the Latin America region during the years of Eurobank deposits and OPEC - increased oil price. Column (5) shows the transfer of capital that took place from 1970 to 1982. In 1982, the transfer of capital became negative for Latin American countries. Since then, they have been paying more in debt service and interests than they obtain in new credits (refer also to Table 1).

Table 3

Capital flows into Latin America and Utility and Interest Payments
(in billions of dollars and per cent)

Years	Registered Capital effective entry (1)	Non registered Capital Transactions (2)	(1+2) Total Net Inflows (3)	Total Net payments of Ser. Charges and Int. (4)	(3-4) Net Financial Transfers (5)
1970	3.8	0.1	3.9	2.8	1.1
1971	4.5	-0.2	4.3	3	1.3
1972	6	1	7	3.1	3.9
1973	8.5	-0.7	7.8	4.2	3.6
1974	12.7	-1.3	11.4	5	6.4
1975	16	-1.8	14.2	5.5	8.7
1976	18.9	-0.7	18.2	6.8	11.4
1977	15.4	1.6	17	8.2	8.8
1978	24.4	1.7	26.1	10.2	15.9
1979	26.9	1.7	28.6	13.6	15
1980	35.5	-5.5	30	18	12
1981	48.3	-10.6	37.7	27.7	10
1982	28.1	-7.8	20.3	36.9	-16.6

Source: *Balance of Payments Yearbook*, 1983. In Robert Devlin (1985). "La Deuda Externa en America Latina."

a. Development based on militarization. Commercial bank investments funded military dictatorships for "national security" in the '70s. Thereafter, military governments administered internal and foreign despotic powers. Three Inter-American Conferences between the U.S. and the Latin American military forces were convened to articulate the rules of development. The first was held in Chapultepec, Mexico (February 21 - March 8, 1945); the second in Rio de Janeiro, Brazil (August 1947); and the third in Bogota, Colombia (March 30-April 30, 1948). At these conferences, pacts of military assistance were signed and the doctrines of "national security" were linked to development (Varas, in Escobar, 1995). It was not until 1973, however that the military forces became responsible for carrying out the modernization designs. The overthrow of Allende's government in Chile in

1973, the uprising of important sectors of the middle-class in Argentina in despair over the ruling class' failure to modernize the country (1973-1976), and the movements in Nicaragua, El Salvador that mobilized grassroots organizations (1980), saw generations physically eliminated (killed, disappeared, or exiled) (Castaneda, 1994).

The Chilean experience became the U.S. model for the neo-conservative modernization project. The day of Allende's victory, September 4, 1970, Kissinger, then U.S. Secretary of State, said, "We cannot permit a country to become communist because of the irresponsibility of its people" (*El Pais*, November 18, 1998). It was believed that Allende's election jeopardized the national security interests of the United States. According to James Petras (1977), a U.S. professor who lived in and studied Chile, the CIA and ITT (International Telephone and Telegraph) set up the conditions for the overthrow of the Allende administration and planned Chile's economic growth through the free-market. In 1973, after a military coup that deposed and killed the elected President, General Pinochet and "the Chicago Boys" from the Milton Friedman School (University of Chicago, Department of Economics) consolidated modernization in Chile. The Chicago Boys proposed economic growth by reducing "superfluous" state expenditures and expanding private sector potentialities, particularly those of the minority faction linked to the international market. It was argued that the benefits of this particular form of wealth would trickle down to the whole society. This economic growth was strongly supported by the U.S. and its allies such as the World Bank (\$133 million), the IMF (\$420 million), the Inter-American Development Bank (IDB) (\$400 million), commercial banks (First National City and Manufacturers Hanover Trust—\$680 million), Japan, and some European countries (Petras, 1977).

According to the Spanish Judge Baltazar Garzon—who requested Pinochet's extradition from England in 1998—since the military coup in Chile, Pinochet Ugarte, as chief commander of the military junta organized and headed an international criminal organization, the *Dirección de Inteligencia Nacional* (DINA) (National Intelligence Direction). The goals of the criminal organization were political and economic. DINA's aim was to conspire to develop and to execute a systematic criminal plan for the illegal arrest, kidnapping, and torture of its ideological opponents—communists, socialists, or even Christians *per el*

Socialism, Mapuches (indigenous peoples), and Jews—which were followed by killings and disappearances.

DINA had two branches: a) the national, which coordinated officials and civilians (neo-fascist groups), was responsible for the elimination of Chileans and foreigners in Chile; and, b) the international, which coordinated the killings of its ideological opponents with military governments of other countries of South America, particularly Argentina. At the national level, DINA operated in coordination with the *Comando Conjunto* (1975-1976) (the Armed Forces) and *Carabineros* (police), “intelligence services” such as *Servicio de Inteligencia de la Fuerza Aérea* (SIFA) (Airforce Intelligence Service) later on called DIFA; the *Servicio de Inteligencia Naval* (SIN) (Naval Intelligence Service); the *Servicio de Inteligencia de Carabineros* (SICAR) (the police force’s intelligence service); and internationally, DINA coordinated the *Operacion Condor* (Condor Operation) with the *Servicio de Inteligencia de Argentina* (SIDA) (Argentina’s Intelligence Service) as well as member country signatories to the plan (Argentina, Chile, Paraguay, Uruguay, Bolivia, Brazil, Peru), or in any country the opponents were in, such as Spain, U.S., Portugal, France, Italy, Mexico. In 1977, DINA was replaced by the *Central Nacional de Informaciones* (CNI) (National Centre of Information) that developed a more selective criminal activity (Garzon, 1998).

Months after the Chilean coup, so-called populist civilian-military governments were overthrown in Bolivia in 1973, in Uruguay in 1974, in Argentina in 1976, in Peru in 1975, and later in Ecuador, in Grenada, as well as other Latin American countries, and military regimes controlled the entire region. By 1976, with cooperative dictators in place, and imposed terror, Latin America was ready to implement the new development policies. The export-economy model that privileges international markets, imposes the exploitation of workers, households, and communities, and reproduces dependency on a major scale, was reinforced by the states through legislation and the creation of institutions.

Petras quotes an article published in *Business Week* (August 9th, 1976):

Latin America opens its doors to foreign investment again. Major countries, it says, are opening their doors wider to private enterprise. Multinational executives consider the region to be one of the world's major investment opportunities." Andre Van Dam, head of the U.S. consortium, states: It's all there, protein, minerals, forests, water. (1997: 22)

The bank loans bolstered the profits of U.S. transnational corporations. The table shows the link between the credits and the profits. Profits of the U.S. transnational corporations (TNCs) jumped after 1973, and increased again sharply between 1977 and 1981.

Table 4

Profits of US Transnational Corporation in Latin America, 1970-1982 (billions)

Year	70	71	72	73	74	75	76	77	78	79	80	81	82
Profit	1059	1096	932	1594	1934	1542	1931	3558	4463	5770	5846	4832	2387

Source: US Department of Commerce. Survey of Current Business, "U.S International Transactions", Washington.

The military methods used were justified by the success of the modernization program. According to its beneficiaries, success is measured by the increase of the effective price of the goods and services that are in the market in relation to the goods and services produced by households and communities which are not in the market.

b. Consequences for women. Feminism in Latin America was born under state violence. As "man-the-breadwinner" was killed, disappeared, or unemployed, the immediate effect was a rapid process of the pauperization of women. Traditionally, Latin American states reduced women's role to that of motherhood. Despite the high proportion of women working in the informal sector, the governments did not recognize women as workers. In addition, during the years of repression, female victims were brutalized, abused, sexually violated, and humiliated.

In Chile, the revival of feminism occurred under the military dictatorship and its slogan, "Democracy in the Country and at Home," spread all over Latin America. The authoritarianism that pervaded public life (military dictatorships in place) combined with authoritarianism in private life (machismo) aggravated women's poor living conditions.

Their subordinate status became more visible to working women and those from poor urban sectors. With the repression, thousands of women were in disarray because their family members were killed, disappeared, imprisoned, or had fled. For instance, in 1974, during the Pinochet regime in Chile, a group of approximately 13 women began to run into each other in the same places—morgues, hospitals, and torture centres. They had similar histories: the detention of children and husbands, and later the disappearance of their loved ones. These women invented strategies to challenge their fear, feed their children, and engage in a new form of political activism and of struggle against authoritarianism. They developed *arpilleras* (patchwork tapestries denouncing human rights violations in the country) using worn remnants of fabric—even from their own closets—to denounce and expose authoritarianism. Through these groups, the women acquired a deep sense of politics and became radicalized. They undertook a collective dialogue grounded in social justice and the commitment to transform an authoritarian culture into a democratic and cooperative one (Agosin, 1994).

In Argentina, by 1990, the massive defeat of the Argentinean people was still reverberating upon their society and their efforts. The mothers of the Plaza de Mayo were still fighting for the return of their loved ones “*Vivos los llevaron, Vivos los queremos*” (Alive they took them, alive we want them back) was the slogan. The unprecedented levels of repression and the recurring use of terror destroyed almost every community in Argentina. In 1995, an ex-navy captain confessed that

...between 15 and 20 prisoners, weekly, were injected with Pentothal and put on planes and thrown out into the Rio de la Plata. As an officer, my task was to take the clothes off the bodies before throwing them out of the plane. These flights occurred weekly from 1976 to 1977, and around 2,000 humans were killed. After the work was done, we were comforted by the naval priest who justified the killings citing the Parable: the wheat and the chaff. In that parable, the chaff is burned to save the wheat, implying that the political prisoners must be burned to save the Argentinean people from the communist influence. (Sabanés, 1995: 19)

Between 1975 and 1983 more than 30,000 Argentineans were killed. Around 480 children were kidnapped and later offered for adoption to military personnel or others. Of those, only 28 have been restored to their natural families. Elsa Pavon de Aguilar from Argentina lost

her daughter Monica and her son-in-law when the military snatched them and their two-year-old daughter, Paula, off the street in Montevideo, Uruguay. Elsa is a member of the Grandmothers (*Abuelas*) of the Plaza de Mayo who was one of the lucky ones to have found her granddaughter. The effects of state terror on second and third generations are still noticeable in Uruguay, Chile, Argentina, Guatemala, and El Salvador (Robert and Gutierrez, 1994).

In El Salvador, in the 1980s, the Reagan administration in the U.S. promoted aid directly related to the free market (vital to the multinationals and international bank activities). El Salvador achieved a popular mobilization unparalleled in Latin America that threatened to alter fundamentally the position and prerogatives of those in power (Castaneda, 1994). They pushed for changes in the context of authoritarian culture, economic structure, and political practices.

The violence created by economic development and the militarization of the region was unleashed by the CIA's direct action. Generalized terror had provoked more than 65,000 deaths, and millions of refugees. In March 1993, the United Nations El Salvador Truth Commission confirmed that the government security forces and death squads committed 95 percent of the crimes and human rights violations in El Salvador (Lewis, 1993). El Salvador also had been "stabilized" through war and state terrorism. In 1995, the U.S. government released a document indicating that the U.S. military personnel trained some 50 to 60 Salvadorean members of a death squad headed by Major Roberto D'Aubisson and William Walker, the then U.S. ambassador to EL Salvador (Russell, 1995).. Lewis (1993) said that during the 1980s, the U.S. spent US\$6 billion to support the military and government of El Salvador that was dominated by assassins. Lewis furthermore claims that the U.S. armed and trained their soldiers and then covered up their crimes.

In 1993, even with the peace process going on, the level of violence was still high. ONUSAL (United Nations' peace-keeping forces) were trying to keep peace in the wake of the spread of investment in *maquila* (transnational corporation manufacturing of a variety of component parts) production in the area. By that time, USAID had spent some \$8.9 million on the free-

trade zone in El Salvador, creating ceiling industries where TNCs can rent industrial roofs in the free-trade zone and disappear anytime they want without losing fixed capital. *Maquila* production is made possible only by the high degree of exploitation of the workers.

Salvadorean women are direct victims of repression. Widowed and orphaned, Salvadorean women are a strong force and the major contingent of family organizations dealing with those that have been imprisoned and those that have disappeared. Many of the women have emotional and physical scars that demonstrate the level of political brutality that accompanies economic development. Economic policies and state repression in El Salvador, in fact, created a kind of gendered consciousness in which the oppressors were challenged by mothers, daughters, wives, and sisters. In demanding “justice” women made connections between women’s rights and human rights, between family/private and justice/public spheres.

Jennifer Schirmer (1993), a professor of women’s studies at Wellesley College researching violence against women in El Salvador, refers to COMADRES (Committee of Mothers and Relatives of Prisoners, the Disappeared and the Politically Assassinated of El Salvador) as a strong group who, in the process of counting their assassinated families, openly confronted government repression:

They [the women] began to ask why. By refusing to accept the boundaries of the state as to what they were not allowed to know.... The question of “What is the truth about our relatives?” slipped into “If they deny us the truth about our relatives, then what else have they lied to us about?” and “If they say we are mothers who should be respected, and yet treat us and our daughters with rape and torture, who are these men who sexualize us, soil us and degrade us?” In this process of questioning first “the truth,” and then the “claimers of that truth,” class and ethnicity gained and lost their centrality to gender.... (Schirmer, 1993: 63)

3. Third Phase—the International Monetary Fund and the World Bank

Economic development “Breton Woods’ style” sees economic growth driven by private-sector foreign investment as the key to development. The number of loans diverted and the

increase in interest rates stopped Latin American countries' possibilities of debt repayments. The high interest rates deliberately set by western governments, led by the U.S., caused the debt crisis. In 1982, the Mexican crisis marked the beginning of the generalized debt crisis. ECLAC coined the phase "lost decade" to reflect the gravity of the situation in the 1980s.

When the U.S. increased interest rates between 1978 and 1983, Latin America's total interest payment increased by 360 percent. And when Mexico announced that it was suspending payments on its \$80 billion debt, most of which was owed to American banks, it frightened the international financial community which was sheltered under the institutions they had created. The role identified for the IMF and the WB effectively put them in the position of taking over the debt while letting the commercial banks off the hook. These institutions offered to guarantee private bank loans while imposing a package of conditions on debtors. These packages are called Stabilization and Structural Adjustment Programs (SAPs). They are based on the theory that the Latin American countries have brought on their problems by themselves and, therefore, have to get out by their own efforts. They must repay the money.

The International Monetary Fund¹ and the World Bank² have compelled Latin America, country by country, to re-organize its economies around the priority of regularly servicing its commercial debts. To force debt payments, the IMF and the WB implemented Stabilization³

¹ The original IMF mandate sets forth three main objectives: (1) to promote international monetary cooperation; (2) to facilitate the expansion of international trade; and (3) to promote exchange rate stability. The IMF achieves these objectives by advising member countries on their economic policies and by providing conditional assistance to member countries experiencing balance of payments problems (ODI, 1993).

² The World Bank, originally created to primarily finance the reconstruction of war-torn Europe, has become the primary financier of development projects in the Third World. It has become the Third World's largest creditor. Its mandate includes: loans for large-scale development projects; and structural adjustment loans (ODI, 1993).

³ Stabilization policy is preoccupied with the control of demand, too little concern with Balance of Payments (BOP) weaknesses stemming from the productive system; and imposes large costs on borrowing countries through losses of output and employment, by furthering impoverishing the poor. It overlaps with the WB. Between them they are apt to swamp governments with policy conditions. Its credits and programs are too small, expensive, and short-term for economies whose BOP are rooted in the structure of the

and Structural Adjustment Programs⁴ respectively. Latin American economies are organized on the belief that the global market is the natural environment, therefore we (women and men, ecologies, enterprises, national economies) must be adapted to the global market in order to survive. Global markets are perceived to represent “natural” law where only the fittest survive. However, the truth is only predators survive. The new global markets are based on low-wages and the disappearance of public benefits. The IMF growth-oriented model takes a monetarist view and sees Balance of Payment (BOP) deficit as having been caused by a surplus of money over the demand for money emanating from excessive domestic credit expansion. To restore BOP viability, IMF programs try to reduce budget deficits and thereby reduce governments’ credit needs. Since the exchange rate is an important influence on the BOP, its programs involve devaluation. To reduce budgetary pressures, the IMF insists on cuts on education, health care, and other public services. Privatization of public enterprises, raising prices, and eliminating subsidies are also stipulated. The IMF’s approach is inflationary because of the price-raising effects of devaluations and interest-rate liberalizations. It often results in reduced investment levels and shortages of imported inputs, reduced real earnings, cuts in budget subsidies which impose large social costs, devaluations of local currencies, increased poverty, and political instability.

The conditions embodied in Stabilization and Structural Adjustment Programs (SAPs) are premised on the belief that in order to pay the debt, indebted Third World countries must adopt market economies integrated within an international market and guided by free trade

system facing secular declines in their terms of trade. Industrial countries use their control on the IMF and the WB to promote their own interests (Roddick, 1988).

⁴ SAPs typically include: (1) a shift from growing diverse food crops for domestic consumption to specializing in the production of cash crops or other commodities for export such as coffee, copper, etc. for export; (2) abolishing food and agricultural subsidies to reduce government expenditures; (3) deep cuts to social programs usually in the areas of education, health, and housing, as well as massive layoffs in the civil service; (4) currency devaluation measures which increase import costs while reducing the value of domestically produced goods; (5) liberalization of trade and investment and high interest rates to attract foreign investment; (6) privatization of government-held enterprises (Roddick, 1988).

principles. The emphasis is on export-oriented growth based on the theory of comparative advantage—an expanded role for the private sector (international and national) by reducing the economic role of the state. The IMF and the WB provide credits to Third World Countries essentially to ensure that the commercial bank debt is serviced. Between 1980 and 1994, the total Third World multilateral debt (debt owed to the WB and the IMF) rose from US\$61.6 billion to US\$313 billion, and debt service rose from less than US\$8.5 billion in 1982 to almost US\$40 billion (Halifax Initiative, 1995). The IMF and WB policies were joined by Official Development Assistance (ODA) policies which placed the interests of industrialized countries first and foremost.

Between 1982 and 1987, Latin America and the Caribbean paid US\$150 billion more in debt service than they received in new credits. Yet, their total debt still grew from \$330 billion to \$410 billion (IMF, 1993). With the loss of capital flowing into the region during the debt crisis, Latin American countries were forced to open up even more to foreign investment and trade, and to restructure their productive systems to fit world demand by replacing state-centered policies with market-centered ones. Mexico was the pioneer. It was the first country that the IMF, the WB, and AID donors went to rescue the commercial banks because it could not pay the interest on its debt. Mexico was the leading recipient of capital inflows, as well as the model country for the neoliberal experiment celebrated by development banks and the business press. However, the 1994-1995 peso crisis revealed the failure of the IMF and WB development policies. The dissolution of public life, with fragmented communities, reinforced by the barbarity of an ideology that rewards the values of antisolidarity and individualism, caused a social disintegration that political parties cannot handle (Portantiero, 1992).

a. Mexico debt crises. Before 1982, Mexico's state was strong. President Echevarría's government (1970 to 1975) was one of the rare "democracies" of the continent. His nationalist discourse and anti-free market approach opened Mexico's doors to receive a major influx of deportees, and exiles, many of whom were Latin American intellectuals, workers, and human rights activists. The strong government's share of total investment in Mexico grew from one-third to one-half, accompanied by large-scale increases in education,

health, housing, and rural development outlays. When Lopez Portillo, in 1976, assumed the Presidency, PEMEX (*Petroleos Mexicanos*), a state-owned oil and gas producer, was the engine of growth for internal development (industry). Oil was a nationalized industry which transferred resources directly to the public sector. Oil earnings were channeled to support industrial development and improvements in living conditions. However, high capital flight across the border (Mexico–U.S.), the enormous energy holdings, and the proximity to U.S. markets made Mexico vulnerable (Vilas, 1999).

In 1981, when the U.S. Federal Reserve increased the interest rate to 16.6 percent, Mexico's foreign debt doubled to \$80,000 (U.S. billion). In February 1982, President Portillo, addressing the effects on the Mexican economy, said "*defendere el peso como un perro*" (I will defend the peso [from devaluation] like a dog). A few days later, "*el peso*" (Mexican currency) was devalued by 30 percent; by August of that same year, inflation had reached 60 percent. By September, Portillo nationalized the nation's private banks and established a complete system of foreign-exchange controls because banks were acting as a conduit for capital flight. The president accused the banks of playing a central role in the country's debt because of the outflow of \$16.4 billion to private deposits in Texas banks. By December, the newly-elected President, Miguel De La Madrid, applied the first Stabilization and Structural Adjustment package, and a defeated Mexico accepted short-term credits, creating more financial obligations. When Mexico turned toward Washington, thousands of Argentineans, Uruguayans, Bolivians, Peruvians, Brazilians, and Central Americans, who had escaped repression and death in their own countries, returned "home."

b. Peru debt crisis. In Peru, as of 1980 when the Belaunde Government was elected, the administration policy was based on the idea that Peru had everything to gain if it followed the neo-liberal policies. In 1981, the government even went so far as to pay back debts ahead of schedule. In 1982, it also entered voluntarily into a new agreement with the IMF. Despite the hardship imposed on Peruvians, the government could not survive the disastrous fall in the market prices for most of its export items, the increased interest rate, and the cut-off in new commercial bank credit.

As Peru's economic performance deteriorated, meeting the conditions imposed by the IMF became increasingly difficult. The stabilization plan of the IMF was centered on reducing the demand in the local economy by increasing domestic fuel prices and eliminating food subsidies, which fed inflation and hit the poor hardest. Having full-time jobs was not enough to guarantee survival. In a country where there is no unemployment insurance or welfare, the most common news item in the headlines was: "mother killed her children and committed suicide because she couldn't feed her children," or, "Father of five children committed suicide because he couldn't find a job" (*La Republica*).

In 1985, when Garcia's administration told the World that it was restricting Peru's servicing of its debt to ten percent of its income revenue, U.S banks' creditors declared Peru's credit value impaired. The IMF declared Peru ineligible for further loans and the WB suspended all lending. "By 1987 more people than ever were dying of diseases attributable to poverty, malnutrition and inadequate public hygiene" (tuberculosis, gastro-enteritis, dysentery, bronchitis) (Roddick, 1988: 167).

By 1989, inflation was 2,775 percent and more than 50 percent of the population was unemployed (Peru Solidarity Forum, 1995). To apply the Structural Adjustment, the Peruvian government and the army declared eight provinces in a state of siege under military control. Entire communities were killed in Pucallpa and Ayacucho. Human rights' violations including forced disappearance of students and professors, as well as executions, were imposed in the universities (Forum Solidaridad Peru, 1996).

The mass killings were accompanied by a propaganda strategy—the "Peruvian Strategy"—which was played out as follows: The Shining Path was regarded not as a political opposition, but rather as a terrorist organization, and by extension, anyone opposed to the government's policies, anyone concerned about the plight of the poor, about human rights, and, of course, the poor themselves, were labeled terrorists as well. Moreover, since the Shining Path movement had originated in Ayacucho, the inhabitants of that province generally became terrorists in the government's view, thereby officially justifying the displacement and/or elimination by assassination of entire communities. The military forces were sent to Ayacucho to "execute terrorists," i.e., to round up all the inhabitants of a given

town and kill them. In this general climate of state-imposed terror, anyone who objected to the “excesses” was automatically labeled a supporter of the Shining Path, and thus a legitimate target for execution. The armed forces were presented as the heroic defenders of Peru against terrorism. Needless to say, it was not safe to disagree publicly with that image.

c. Consequences for women. The policies applied by the IMF and the WB aggravated the already deteriorating living conditions of large sectors of the population following the installation of the military dictatorships in the 1970s. In Peru, women’s response was an urgent mobilization to guarantee livelihoods. Neighbourhood organizing became a way of survival and women’s participation was crucial. The elimination of state social programs, the removal of subsidies in the food system, and high inflation brought together more than 100,000 women as organizers of neighbourhood committees and *comedores populares* (popular kitchens) as well as the municipal program *el Vaso de Leche* (glass of milk). *Comedores Populares* are community-based dining halls that, since the introduction of SAPs in the late 1970s, have become meeting places to answer survival needs. In 1991, Care Peru counted 5,329 *comedores populares* in Lima alone. Each *comedor popular* is composed of 20 families. Every week, each family contributes a sum of money that is considerably less than what it would spend for food if cooked at home. Families also contribute utensils such as cooking pots, large spoons, kerosene, burners, and funnels. Housewives meet weekly to decide who will go to the market and at whose home the food will be cooked. Parents and children bring their own plates and utensils to the kitchen and usually return to their own homes to eat their meals. As the crisis deepened in the late 70s, these programs garnered support from the private sector, cooperatives, NGOs, churches, political parties, and northern-based development organizations. Even the government became directly involved in communities where pressure was greatest. These kinds of organizations were also developed in Chile, Colombia, Guatemala, Mexico, Paraguay, Uruguay, and Venezuela (Isla, 1997).

These policies and the need for survival created new spaces for women’s action. As they became engaged in a collective activity that helped ensure their collective survival on a daily basis, women also became aware of their common problems. Some of these activities centered on traditionally female tasks—particularly cooking—which enabled women to name

and resist the existence of domination in their personal relations with men, the unequal distribution of tasks and responsibilities in the home, and their limited decision-making power in both the private and the public sphere (Arteaga, 1988). Some of the women in these organizations were able to transform their family relations and to transfer their autonomy and sense of efficacy to experiences outside the home, defending these gains openly. Mutual support and collective action also increased women's appreciation of each other. This enabled women to engage in collective actions with other women which resulted in such changes as the participation of women in neighbourhood communities, basic needs mobilizations, and human rights demonstrations. These changes, in turn, allowed women to gain authority within the household. The women modified their relations with their spouses and showed signs of greater self-esteem (Barrig, 1986). Machismo is, thus, reformed and becomes less repressive. The changes have resulted in some degree of freedom for women from cultural assumptions of domesticity and isolation (Stromquist, 1993). Local feminist NGOs helped raise women's consciousness about conditions in their home, about abuse and violence, family relations, legal rights, reproductive rights, women's organizing and organizations.

d. Defeat and resistance. The implementation of the IMF and the WB policies led to a generalized popular resistance. But, together, the military dictatorships and the U.S. defeated Latin American working-class and grassroots organizations. In Guatemala, El Salvador, and Nicaragua, the American Institute for Free Labor Development (AIFLD), Counter Insurgency-Anti-Communist U.S. Branch, disrupted and weakened a progressive union movement through persecution and clandestine methods by using USAID and U.S. Information Agency Funds (Brooks and Tate, 1999). The enormous setback suffered by labour opened the door to further assaults on wages and benefits.

The final disempowerment of Latin Americans, particularly women and the poor, was achieved through the IMF and WB policies: devaluation, budget austerity, user fees in education and health, trade liberalization, deregulation of grain markets, elimination of minimum-wage legislation, controls on real wages, unemployment, devaluation of currency, inflation, liberalization of prices, removal of state subsidies, and reduction of social

expenditure. In other words, adjustment was achieved through inflation (smashing the power of workers, and communities, by increasing profits), through price gouging, through speculation, and through loans. For Latin Americans, this meant unemployment, as well as the further erosion of wages and salaries, reduction of fundamental services such as education, health, housing, and basic justice. The imposition of fees increased the deep erosion of the total income of the people and furthered social polarization. The fall in real wages among poorly paid workers was soon reflected in the deterioration of health levels. UNESCO (1995) has shown that the percentage of children completing primary education declined, but this decline was more noticeable for girls than for boys. Violence against women and children increased in a way never seen before; millions of children took to living on the streets ("The Madrid Declaration," 1994). Furthermore, the debt crisis reduced workers' capacity to negotiate, but strengthened capitals' capacity to take advantage of low-cost labour. It deepened unemployment, economic insecurity, bad jobs, and low income.

4. Fourth Phase—Portfolio Investments and Debt-for-Nature Swaps

The IMF and the WB policies facilitated entry into Latin American markets by dismantling barriers to foreign investment and providing aid through ODA programs. Since the late 1980s and beginning of the 1990s, Latin American countries running a deficit have had to rely on an inflow of foreign capital to pay their debts and on the exchange of debt-for-nature. Mexico became a major recipient of speculative capital (or private capital looking for growing real interest rate differentials between Latin America and the U.S.). The inflow of foreign capital is in the form of short-term portfolio investments. The banks and the multilateral institutions, who previously made the loans, were replaced by bond and stock markets as the key sources of capital. Under the Brady debt-restructuring plan established in 1989, Latin American bank loans were transformed into bonds that could be easily traded on the financial market. In the early 1990s, an active market in trading these bonds quickly developed. The U.S. Enterprise Americas Initiative (EAI), under President George Bush, proposed debt swaps using public funds to transfer Latin American public enterprises to U.S. private corporations. These corporations carried out and benefitted from most of the debt swaps. Debt swaps are financial mechanisms to exchange debt for ownership in national industries, public enterprises, bank

assets, and nature. During the 1980s, through debt swaps, Latin American countries privatized their public infrastructure.

According to Carlos Vilas (1996), an Argentinean researcher at the UNAM, the debt swaps' international holders are "mutual funds," which collect money deposited by individuals and invest it in an array of financial assets; "pension funds," which are huge pots of retirement savings under professional management; "hedge funds," which are essentially pools of capital contributed by institutions and wealthy individuals and are handed over to a small circle of managers who are given license to borrow heavily and speculate aggressively; and "environment funds," the main characteristic of which is that there is no entry of new money into the country since it is the indebted country that pays with local currency for bonds on a foreign debt that was contracted in dollars. The debtor country's "obligation" is to allocate domestic resources for financing ecological projects in exchange for extinguishing a limited portion of the country's foreign debt. Supported by aid, environment funds insist upon structural adjustment measures to stimulate economic growth.

Carlos Vilas concludes that from 1990 to 1993, five Latin American countries made it onto the list of the top 20 capital recipients of Foreign Direct Investment (FDI) and portfolio investment combined: Mexico, Brazil, Argentina, Venezuela, and Chile. These countries, plus Colombia, accounted for 95 percent of the inflow into Latin America in 1992. In 1994, Mexico was one of the three countries (together with Indonesia and Malaysia) that accounted for almost 60 percent of FDI. The stock market never closes. Through computer systems thousands of financiers buy and sell bonds making sophisticated and volatile financial speculations. The stock market boom has proved violent in Latin America as the Mexican and Brazilian collapses revealed in 1995 and 1998. Countries are harmed by capital inflows. In a world environment of freedom of capital movements, capital outflow demands wage cuts to make the country more attractive to investors, and capital inflow demands wage cuts to make the country's products more attractive to foreign buyers. But, these wage cuts and social service cuts are exhausting humanity. In close association with the industrial capitalists, local capitalists are transferring their savings (made with the money collected by privatization) to multinational banks which in turn lend capital to Latin American states.

These states, in turn, lend to private capitalists. This activity allows private capitalists to protect their savings while risking foreign debt which is guaranteed by the local state (Petras and Vieux, 1992).

In the 1990s, U.S. transnational corporations obtained higher profit rates in Latin America than in any other part of the world. Nine Latin American countries account for over 90 percent of U.S. Foreign Direct Investment: Bermuda (a favoured tax and regulatory shelter for the insurance industry; Brazil, Mexico, Panama (small tax havens), Argentina, Chile, Colombia, The Bahamas, and Venezuela. Most foreign direct investment in Latin America is the result of debt/equity swaps and privatization.

Table 5

U.S. Direct Investment

Latin American Countries	U S Direct Investment (Mill)	% Return
TOTAL	612109	10.6%
Latin America (total)	114985	14.0%
Brazil	18977	25.4%
Mexico	16375	16.1%
Venezuela	2978	13.1%

Source: Survey of Current Business, various issues from Doug Henwood in the Free Flow of Money, in NACLA Report on the Americas, 1996:15.

In the 1990s, higher profit rates increased social inequality levels even more than in the 1970s. As a result of the stabilization and structural adjustment programs, as well as the portfolio investments made over the past 17 years, the heterogeneity of the structure of poverty has increased. The structurally poor have been joined by others due to growing unemployment (jobless growth), loss of purchasing power of their wages, inflation, devaluation, and erosion of retirement pensions. The scale of the current magnitude of poverty in the Latin American region shows that, in most countries, the percentage of households affected surpasses the number of poor in 1970. In the 1990s, in 13 Latin American countries, 183 million people live in poverty amounting to almost 40 per cent of

households. This 40 percent of households represents 46 percent of the population. Likewise, 34 percent of urban households are poor, while in the rural areas this figure increases to 53 percent. Extremely poor households (which means they cannot even afford the basic basket of goods) account for 13 percent in urban areas while in the rural areas it is 30 percent (Valdes and Gomariz, 1995).

As government austerity programs have driven millions out of regular work, children have been forced to work. According to the International Labour Organization (ILO), there are 17.5 million working children between the ages of 5 and 14 in Latin America and the Caribbean (ILO, 1996). Most child workers operate in the urban informal sector or in agriculture, especially on peasant farms. Both sectors require no prior qualifications, start-up capital, or papers, and they function outside of government control.

The informal sector's most visible child members are the street workers, but those most at risk are household workers—the invisible multitudes, mainly girls, shut away from scrutiny behind the front doors of Latin America's family homes. Many more millions of girls work in their homes, caring for younger siblings, or maintaining the household so that their mothers can go out to work. (Green, 1999: 22)

In Latin America, the legacy of military rule (1964–1990), heavily implicated in the disappearances, tortures, and deaths of suspected “subversives,” takes the shape of tolerance for violence and illegal police actions against “street children” and violence against women. These children are the children of impoverished and often single or abandoned women. The boys who live on the streets usually die on the street, while the girls live and die in violence selling the only valuable thing they possess: their body (Scheper and Hoffman, 1994).

D. Conclusion

This overview of different forms of investments taking place in Latin America during so-called economic development shows that development theorists were right to see economic development as a process of accumulation. This accumulation, occurring over the last 50 years, has resulted in an enormous amount of wealth for industrial countries while non-

industrialized countries have seen an overwhelming increase in poverty levels. Power and development have resulted in the polarization between rich and poor countries, and ultimately, this polarization is responsible for the environmental crisis.

Investments are a violent social process and debt-for-nature swaps are simply a new form of investment which does not depart from established relations of economic development. Debt-for-nature investment has become the shape of sustainable development in Third World countries, and a recognized mechanism for generating the local currency needed to reshape those countries. Future chapters will address the issue of what kind of sustainable development and/or conservation is taking place using debt-for--nature investment.

Chapter Two

Debt Crisis and Economic Development in Costa Rica, 1981 to 1989

Inclusive (las clases poderosas manipulan) nos hacen creer que Costa Rica vive una autentica democracia, que existe equidad socioeconomica y que vivimos en condiciones envidiables, lo cual es un perfecto engaño. (They—the manipulative powerful class—have made us to believe that Costa Rica is an authentic democracy, with socio-economic equity and that we live in enviable condition; that is a perfect lie.) (Sancho, 1999)

People are not okay in itself, but in relation to others. Costa Ricans compare themselves with Nicaraguans and see the difference. The difference is like between Mexico and the United States. (Mora, Summer 1999)

Some of the data presented in Chapter Two were available from the University of Toronto libraries. However, most of the research was conducted at the University of Costa Rica. The information and analysis presented here also owes much to conversations with a number of distinguished professors whose books were also of great use. Lawyer Magda Rojas helped me to connect with Dr. Carlos Sojo from *Coordinadora Regional de Investigaciones Economicas y Sociales (CRIES)*, Dr. Jose Luis Vega Carballo professor emeritus, and Dr. Arnoldo Mora professor of the University of Costa Rica. Their time is much appreciated, though the only discussion I cite directly is with Dr. Arnoldo Mora.

To fully understand debt-for-nature investments in Costa Rica, they must be examined within the context of the Cold War and the history of capital investments in Costa Rica. Costa Rica like other Latin American countries, followed ECLAC economic development prescriptions, but unlike other Latin American countries, where the debt crisis unleashed drastic ruptures, Costa Rica was the only country in the region where transition to the new investments/development patterns was “peaceful.” Costa Rica is sold, by the conservatives, as a showcase of economic development success. Conservatives want to attribute universality to the supply side model (neo-liberal model), but Costa Rica cannot be seen as a success story. The claims that Costa Rica is a showcase of supply side (monetarist policies) success in the underdeveloped world cannot be maintained if we look at them closely. In Costa Rica

why did discontent not overwhelm the state's ability to control the population? Two reasons explain the outcome: First, Rodolfo Cerdas Cruz (1998), Ana Sojo (1984), Marielos Aguilar (1989), and Jose Luis Vega Carballo (1992) propose an analysis of historical elements that focus on the formation of the ruling class and the early dismantling of the political and unionized movement during the Cold War; and second, Trevor Petch (1988) and Carlos Sojo (1992) argue that the geo-politicking of the IMF and WB funds were used to favour U.S. administrations in the 1980s. The *Partido Liberacion Nacional's* (PLN) political class, overwhelmed by debt and alienated by its anticommunism, sold-out the country's geo-political location to USAID funds and, in so doing, re-established a colonial relationship with U.S. interests.

This chapter presents some historical elements of the Cold War in order to explore Costa Rica's economic development through aid and loans which played central roles in Costa Rica. Aid was provided by the United States that had long-term interests in Costa Rica where both the United Fruit Company and the Standard Oil Company operated. Furthermore, Costa Rica has always been a strategic geo-political place for U.S. interests. Costa Rica shares a border with Panama and American powers control the Panama Canal. More importantly, during the Cold War Costa Rica provided a balance of power to the United States in Latin America. The chapter is concerned with the debt crisis and focuses on the period between 1981 and 1989.

A. The Cold War in Costa Rica

In discussing the economic development of Costa Rica, Ana Sojo (1984) specializes in Costa Rica's state policies while Rodolfo Cerdas Cruz (1998) specializes in U.S. intervention in Costa Rica. Both are professors at the University of Costa Rica and both have analyzed Costa Rica's economic development by focussing on the early formation of the ruling class that development fostered:

a) the creation of a circle of intellectuals oriented towards developmentalist and redistributionist policies achieved by means of an "active" national state. The *Centro para*

el Estudio de los Problemas Nacionales (the Center) was crucial in planning a political strategy to eliminate landlord society, and to restructure the state as a political force in development. The Center's proposition was close to the communist party that pushed for social reforms in the interest of the developmentalist vision (industrialization). But both ideologies, the social-democracy of the Center and the communist ideology, were confrontational (Cerdas Cruz, 1998);

b) the successful merger of intellectuals around the Center, with wider groups of professionals, entrepreneurs, students etc., favoured a change in the status quo. Rodrigo Facio, intellectual leader of the Center, denounced external dependency of the agro-export traditional model as locking modernization. He also rejected the extreme poverty created by the United Fruit Company, the Standard Oil Company, and other U.S. enterprises based in Costa Rica (Cerdas Cruz, 1998). The new social force, called "entrepreneur-politicians" by Cerdas Cruz, found its concrete political expression in the *Partido Liberacion Nacional* (PLN).

Marielos Aguilar (1989), an authority on Costa Rica's working-class history, and Rodolfo Cerdas Cruz (1998) both studied economic development during the early defeat of Costa Rica's working class between 1948 and 1951. Until 1940, Costa Rica had survived mainly on coffee exports to Germany which, after England, was the second main importer of coffee. German families had a monopoly on coffee commercialization in Hamburg. In 1940, during the Second World War, following U.S. advice, Costa Rican president, Dr. Calderon Guardia, declared war on Germany. German citizens in Costa Rica were jailed and their properties confiscated. In 1941, the upset-coffee oligarchy planned a military-state coup. The Communist Party (CP) of Manuel Mora, strengthened by the alliance of U.S. President Roosevelt and Russian Prime Minister Stalin, proposed a coalition with Calderon's government (representing the interests the landlords in Costa Rica).

The coalition was based on the maintenance of social reforms (later called the Social Chapter). These social reforms included the establishment of the National University; *Codigo de Trabajo* (i.e., a labour code equivalent to labour-standard status and labour-relations law

in Canada) which guaranteed the right to strike, to collective bargaining, to job security, and to a minimum wage; provisions for squatters to acquire land titles and social security measures; and health care through la *Caja Costarricense de Seguro Social* (Costa Rican social security).

Parallel to the Calderon-CP coalition, an alliance was also established between Calderon and the Catholic Church. Calderon was the first Catholic president. This stood in his favour when his government established the teaching of Catholicism in Costa Rican schools. He also had a good relationship with the head of the Church, Archbishop Sanabria. Sanabria, a peasant himself, knew that peasants in Costa Rica, as well as a number of other workers, were anticommunists and had no intention of becoming members of the communist party's union, the *Central de Trabajadores de Costa Rica* (CTRC). In order to attract that group and maintain the government's social reforms, Sanabria proposed to the Calderon-CP alliance the organization of the *Rerum Novarum*, a Church-controlled union. Officially, the alliance between the CP and the Church was established in 1943. Together, the CP and Church achieved the most important political reforms. The alliance made the CP change its name from *Bloque de Obreros y Campesinos* to *Partido Vanguardia Popular* (PVP); renounce class struggle, social revolution, and atheism; and adopt the liberal-bourgeoisie postulates. The communist party became a kind of Euro-communism, an occidental-democratic left that participated in political power. These two alliances, Calderon-CP and Calderon-Sanabria, were crucial to ensure the permanence of social reforms in Costa Rica's history. After the alliance took place, Sanabria sent *Padre* Benjamin Nunez, appointed by Sanabria as head of the *Rerum Novarum*, to be educated in the social sciences in the U.S. While in the U.S. and during the Cold War, Nunez became anti-communist.

The U.S. could not tolerate a strong communist party in Costa Rica because of Costa Rica's physical proximity to the Panama Canal. The U.S., through *Padre* Nunez, created the conditions necessary to fight the communists. Initially, the Cold War struggle in Costa Rica was fought between the two labour unions: *Central de Trabajadores de Costa Rica* (CTRC), influenced by the communist party, and the *Rerum Novarum* (*Central Costarricense de Trabajadores Rerum Novarum*) (CCTRN). The fight escalated until it became a civil war. The

civil war, between Jose Figueres—one of the richest coffee producers in Costa Rica—(representing modernization) and the Calderon-Picado government—Teodoro Picado became President after Calderon and maintained an alliance—(representing landlord interests), lasted six weeks. The first week was fought by Picado's government (against Figueres). Picado's brother, Rene Picado (close to the U.S. State Department), knew about U.S. politics during the Cold War. The government, when informed, let the *Partido Vanguardia Nacional-Communist Party (PVP)* fight the war alone. According to Arnoldo Mora (1999), an ex-communist, the communists were defeated and killed. In six weeks, in a country of some 600,000 inhabitants, 2,000 people died. Of those, 400 were Costa Rican. The majority of the people killed were Nicaraguans and Hondurans who worked in the banana plantations.

The victory of the modernizers, in the 1948 revolution, resulted in Padre Benjamin Nunez being appointed Minister of Labour. The U.S. embassy pressured Nunez and the Figueres' government to eliminate the PVP and its union from the political scene. Since union and party were seen as ideologically merged, the persecution against the CTCR (*Central de Trabajadores de Costa Rica*) turned to those affiliated to PVP. Nunez's war against the PVP and its affiliates enabled the government to assert the political primacy of the PLN over the organized proletariat working on banana plantations and in the cities. Nunez, as the Minister of Labour, declared the communist party illegal and persecuted its affiliates through massive lay-offs, assassinations, and forced exile. *La Junta* (presided by Jose Figueres) persecuted supporters of the Calderon-Picado government, and particularly PVP members. Figueres and Nunez used different mechanisms to eliminate the PVP and its union, such as the *Tribunal de Sanciones Inmediata* (Immediate Sanctions Tribunal) which persecuted all the defeated political sectors; the *Tribunal de Providad* (Providad Tribunal), which declared the PVP illegal and badgered its affiliates and its unions through massive lay-offs; the *Tribunal de Etica para los Funcionarios de la Docencia* (Ethical Tribunal for Education Workers) was used to lay-off all unionized teachers; and, they furthermore, laid-off all civil servants of the defeated regime; and encouraged private enterprises to lay-off any unionized workers.

Figueres and Nunez's brutal repression dissolved Costa Rica's union movement between July and October, 1948. Aguilar (1989) explains that of the 204 unions active in July, 1948 only 41 were half-active by October 1948. According to the Ministry of Labour, by May 1949, 177 unions were dissolved. Between 1949 and 1953, 195 unions were dissolved (Aguilar 1989: 74, 91). More than 7,000 Costa Ricans lived in exile in Mexico, Nicaragua, Venezuela, and Panama, and approximately 3,000 were thrown in jail (Shifter, in Aguilar, 1989).

The dissolution of the CTCR was legally achieved in 1951. The *Rerum Novarum*, as a union, disappeared after the 1948 civil war and its members became part of the electoral interests of the *Partido Liberacion Nacional* (PLN). As of 1948, union movements were consistently harassed. For instance, meetings could only take place under the vigilance of the *Ministerio de Seguridad Publica* (Public Security Ministry) (Aguilar 1989). The Public Security Ministry was the most repressive organism in every Latin American country. It abused civil populations, instigated fear through house registers, imprisonment, disappearances, and other means. The union movement, with the exception of the banana union, was quashed. With the union movement destroyed, there was no longer any need for military forces.

In sum, the Cold War suppressed and eliminated the union movement in Costa Rica (Cerdas Cruz, 1998) before it affected any other country in Latin America. Costa Rica's working class was, in fact, the first casualty of the Cold War. The Cold War virtually eliminated working-class masses as a political movement. Workers' conscience was deeply marked by repression, even though the official cynicism pretended to hide, from the present generation, the critical situation under which people lived and the vast numbers of people killed during the 1948 Revolution. These circumstances explain the present lack of organization and participation of Costa Ricans in civil and public life. Their historical defeats have bred a deeply-felt insecurity and fear of the consequences of political organization. The United States currently has complete control of the country. Working-class organizations were replaced by a solidaristic union system linking entrepreneurial state and private enterprises in an attempt to merge workers' and owners' interests.

B. The Debt Crisis

I. Origins

Anthony Winson (1989), an Assistant Professor at the University of Guelph, offers an interpretation of the emergence of Costa Rica as a liberal democracy. He argues that in the years following the 1948 civil war, the *Partido Liberacion Nacional* (PLN)-state was able to force a historical compromise with the large coffee and commercial interests, which gave to the state certain crucial fiscal instruments, and a share in the social surplus generated by coffee exports. Winson maintains that PLN privileged investment, through industrialization, as the path through which to expand the benefits of capital accumulation.

In Costa Rica, economic development as an investment policy can be explored through two phases of state activity: from 1948 to 1970, and from 1970 to 1978. From 1948 to 1970, the state's role was understood as direct support to private capital (A. Sojo, 1984; Cerdas Cruz, 1998). Ana Sojo (1984) and Rodolfo Cerdas Cruz (1998) explain that the Figueres and Orlich (President of Costa Rica after Figueres) PLN's administrations were committed to economic development theory and saw the transition to industrialization (modernization) as central to development. Thus, the role of the PLN state was to create the general investment conditions required to develop individual capital. Industrialization and agriculture modernization needed a strong state to make important political-economic decisions.

In 1959, the first important political economic decision of the PLN state was influenced by Keynes theory of credit assignation and productive activities. As a result, the state nationalized the banking system to provide credit to productive activities; and organized a hydro institute, *Instituto Costarricense de Electricidad*, (ICE) to subsidize industrial development.

Between 1963 and 1979, the second important political-economic decision made by the state, influenced by the Economic Commission for Latin American and the Caribbean (ECLAC), was to participate in the *Mercado Comun Centro Americano* (MCCA) (Central America

Common Market). ECLAC proposed state-sponsored industrialization through “import-substitution” until the country was integrated into the international market. Under that regime, the state subsidized export production, limited import, fixed tariffs, taxed export, and controlled prices.

However, the economic development theory that proposed to enrich the rich, as well as to improve the standard of living for the poor, did not achieve the expected results. After 15 years of participation in the MCCA, the integration process was seen as limited. Limitations of the import-substitution industrialization model were explained by: a) high level of foreign capital participation; b) low utilization of the installed capacity; c) dependence on external markets; d) high level of imports of raw material and equipment; e) dependence on foreign credits; f) deficient coordination within the economy (Rosental, 1976; Izurrieta, 1979). In the eyes of Costa Rica’s bureaucracy, the vulnerability of the national industry in relation to foreign capital, could be overcome by a state entrepreneurial organizer.

The third important political-economic decision was the creation of *La Caja Costarricense del Seguro Social* to provide health care, and the *Instituto de Tierras y Colonization* (ITCO) to regulate the conflicts created by the landless people during the colonizing process.

From 1970 to 1978, the state role was understood as public accumulator and organizer (A. Sojo, 1984; Cerdas Cruz, 1998). This role was given to the state by the new generations of PLN, made up of the middle-and lower-middle class, who used their status to develop an entrepreneurial state that would increase their support base, their own economic development, their own privileges, and their own personal enrichment (Cerdas Cruz 1972, 1979, 1981). State workers represented the only sector where salaries were higher and the workers unionized. This was the sector that had interests in strengthening and expanding the state. It was during this period that some public sector members were considered state bourgeoisie (A. Sojo, 1984). These members, in charge of the elaboration and application of economic policies, proposed development based on the government’s five-year plan. Following Keynesian economic theory and ECLAC’s directions, the model they intended to implement was concerned with creating the purchasing power necessary to sustain the

region's internal markets and with generating a much more integrative dynamic of development.

In 1973, the impulse of the state as public accumulator was justified by the evidence that efforts of the state in supporting the individual industrial initiatives were not increasing the employment rate as was expected. For instance, from 1950 to 1973, the agriculture sector fell from 54.7 percent to 38.2 percent, while industry grew very slowly from 11.0 to 11.4 percent. The service sector, however, increased significantly from 14.8 percent to 24.1 percent.

The changing role of the state, from being private-accumulator supporter to public-accumulator organizer, implied modifications in the PLN politics. In 1969, members of the PLN wrote a manifesto called *Patio de Agua*. It described the new role of the state in productive activities. It proposed to direct the state's savings to support the creation of an industrial class, and, in particular, to support state investment in areas where the size or nature of the private investment can be inconvenient for security reasons, or, too expensive to be initiated by an individual entrepreneur. By 1970, the state reduced its support to private accumulation and organized the state as an accumulation centre. This situation allowed the state some autonomy from the private interests that supported the 1948 revolution (A. Sojo, 1984).

The state entrepreneurial initiative was promoted by ECLAC and was supported by different levels of government: the Parliament, the executive, the autonomous institutions, state enterprises, and particularly by the civil servants. The Ministry of Planning and the National Development Plan promoted "planning" as an important instrument in capital accumulation and the organization of new enterprises and/or nationalization of existing enterprises.

In 1972, the central role of the state's accumulator was expressed by the creation of the *Corporacion Costarricense de Desarrollo* (CODESA) imitating the *Corporacion de Fomento* (CORFO) model in Chile. The aim of CODESA was to unite national and international financial investments and technical resources in order to fund and efficiently organize the much-needed new enterprises that private individuals might in the future consider establishing. The

Inter-American Development Bank (IDB) supported the idea (A. Sojo, 1984: 196) because the creation of CODESA responded to the interests of the emergent industrial bourgeoisie. CODESA gave rise to several new initiatives/enterprises, such as the production of cement (*Cementos del Pacifico y Cementos del Valle*), fuel, processing products based on imported aluminium (exploitation of Bauxite and aluminum manufacturing, exportation of sugar cane (*Central Azucarera del Tempisque S.A.*), the nationalization of the Costa Rican Airline and other national enterprises (i.e., Costa Rica's cotton industry, Costa Rica's railways, the *Ferrocarril S.A.* and the *Transportes Metropolitanos S.A.*, and the country's stock market, *La Bolsa Nacional de Valores*. In 1974, RECOPE, Costa Rica's oil refinery, was nationalized.

CODESA's legislation proposed to support national capital through credits, state control on imports, and production diversification. CODESA was attractive to the international banking system and received loans from different sources. Loans were used to develop industry with imported raw material, equipment, and tools. Loans were also used to attract foreign investment by promoting and protecting industry through building airports, roads, factories, and tax exemptions. The increase in state expenses supported the private sector as well as created new productive areas, and used credit from the international banking system that created external indebtedness (Arrea, 1978).

The state accumulation model was possible only because the state monopolized the banking deposits and assumed the role of diverting income from the state banking system. The banking system linked to import substitution policies provided the credits. The money-capital in the state banking system contributed in overcoming limitations of the capitalist accumulation. It provided money for investment over the limits of individual capital. Credit policies were developed according to the block in power.

Development/industrialization paralleled the deterioration of Terms of Trade. Deterioration of the Terms of Trade is the process whereby the prices of manufactured products increase more than do the prices of raw materials that the country exports. For instance, import of goods in 1950 cost c/45,671,900 and import of the same goods, in 1980, cost c/1,528,931,000 (MIDEPLAN, in Mora Alfaro, 1984). The direct consequence of

development/industrialization and the deterioration of the Terms of Trade was the creation of permanent BOP deficit.

Professor Jose Luis Vega Carballo (1992), a specialist in Structural Adjustment Programs in Costa Rica, in referring to Costa Rica's state policies, argues that the relationship developed by the political class, the agro-industry production, and commercial interest was critical. Governments wishing to continue the agro-export model of production have consistently campaigned on the need to see the relationship between the state and the agro-industry production as the common source of sustenance. The association of state and agro-industry explains the formation of "historical compromises" (*pactos historicos*) that create what can be called "community of interests" (*comunidad de intereses*) to control the expansion of poverty and misery of the marginalized population by the adoption of convenient economic policies from time to time.

The agreement reached between the state and the industrialists, and the early defeat of the working class in 1948, made possible the rule of PLN for three decades. The state accumulation also created a state bourgeoisie which has its own life (A. Sojo, 1984). Disagreements among PLN members were exposed in numerous newspapers. For example, the group *Accion Patria*, lead by Figueres, was against state capitalism and in favour of the continuation of supporting private accumulation, while Oduber (ex-President of Costa Rica) favoured a state bourgeoisie development. The conflict between Figueres and Oduber was exposed in the pages of *The New Republic* when Figueres revealed the CIA's (Central Intelligence Agency of America) support to research programs and magazines edited by Luis Alberto Monge, the PLN candidate in 1978. The conflict changed economic and power relations, transforming roles and relations in social, economic, and political structures. The internal division of the PLN alienated its constituents and the PLN candidate, Monge, lost the 1978 elections to the Rodrigo Carazo, the candidate for the *Partido Unidad* (A. Sojo, 1984: 109).

According to Vega Carballo (1992), the state encouraged accomodation, a relative almost opportunistic in the lower class. The state promoted the ideology that social peace is good

“business.” This ideology sustains the belief that all of Costa Rica’s society is a “big family” where all are “igual-y-ticos” o “igualiticos.” The middle-class strategy is expressed in the slogan “orden con progreso” (progress with order). Therefore, maintaining order becomes the responsibility of everyone, no matter their status. To maintain the status quo, people learn behaviours that enable them to hide inequalities and marginalization. The creation of such a structure was possible through the increase of the state apparatus that co-opted popular leaders (Vega Carballo, 1992). State policies for social support were subsidized by RECOPE funds. In rural areas, the *Consejo Nacional de Produccion* (CNP) (National Council of Production), created in 1943 to fix prices, grain storage, and conservation, distribute basic food stuffs to marginalized sectors, increase production, and contribute to basic food price stability. In the urban areas, stability was achieved by the establishment of the Economic Labour Sector that guaranteed workers a share in enterprises. These enterprises supported production, guaranteed access to the means of production, and exploited natural resources.

Until the 1981, debt crisis, Costa Rica like many Latin American’s states, provided universal education and health care that permitted partial social integration and inter-generation promotion. Focussed housing and social assistance, such as school soup-kitchens and daycare in San Jose, were provided to the poorest sectors of society. Each administration articulated its social programs depending on the social discontent. The debt crisis and the application of SAPs brought massive dismantling of the ‘Social Chapter’ that was not on the agenda of major political parties (Sojo, 1997, Trejos and Mora, 1993).

2. Internal and External Factors of Debt Crisis

Investment fostered corruption between and within industrial and non-industrial developmentalist states to finance development/industrialization Two main factors were responsible for the Costa Rica’s debt crisis.

a. Internally. Internally it is exemplified by the Costa Rica/Italy US\$15 million debt described by Mauricio Herrera in *La Nacion*, August 17, 1999. In 1983, Monge’s administration signed a Technical Cooperation Covenant with Italy. In 1984, the cooperation

agreed to install a jetty mole (dike) in Puerto Caldera to repair boats. In 1985, Costa Rica received a loan of US\$12.9 (million) from Italy, even though the cost of the jetty mole was US\$9 million. On August 1, 1985, the *Instituto Costarricense de Puertos del Pacífico* (INCOP) (Costa Rican Institute of Pacific Ports) signed a parallel agreement with *Banco Medio Credito Centrale* (Central Bank) of Italy. On August 13, 1985, INCOP transferred the money obtained from Italy to a private enterprise, *Desarrollo Naval S.A.* (DENASA). DENASA transferred the money to *Societa Esercizio Cantieri* (SEC) (an Italian company) to build the jetty mole. The jetty mole was never used, there was no need for it; it was abandoned and partially sank (Herrera, 1999).

In July 1987, Costa Rica's government rejected the debt through the *Contraloria General de la Republica* that intended to nullify the agreement between INCOP and DENASA. In 1988, DENASA declared bankruptcy. In 1995, Costa Rica and Italy deferred to an international arbitrator in Geneva and Rome. The process took two years and Costa Rica lost. Costa Rica had to pay US\$15 million. In 1999, Costa Rica's government negotiated to receive a credit from the Italian government to pay the US\$15 million loan (Herrera, 1999).

b. Externally. After the Second World War, the industrial world imposed deteriorating Terms of Trade between the industrial producers and raw material producers. In addition, in the 1980s, industrialized countries went into recession and, led by American President Reagan and British Prime Minister Thatcher, adopted monetarist policies which meant pushing interest rates up in order to facilitate the entry of money into their own countries.

Table 6

Costa Rica's Debt: Total External Debt and Debt Service (U.S. \$million)

Year	1980	1990	1991	1992	1993	1994	1995	1996
Total External Debt	2744	3756	4021	3933	3863	3905	3793	3454
Debt Service	335	440	376	513	527	462	576	541

Source: *Global Development Finance 1998*. A World Bank Book.

Costa Rica's debt in 1996 was \$3,454 (U.S.) less than in 1990 which was \$3,756. This was because, in 1989, Nicholas Brady, then U.S. Treasury Secretary, called on international financial institutions to support the debt-reduction process by accepting lower interest payments or reductions in principal on outstanding loans, while making new loans with stronger international guarantees (Kilborn, 1989). Costa Rica's foreign debt situation was stabilized, but in 1999, internal debt is more critical than external debt.

C. Geo-Political Negotiations and U.S. Parallel State

1. Geo-political Negotiations around Costa Rica's Debt and Nicaragua's War

In 1978, Rodrigo Carazo's election from *Partido Unidad* put an end to three decades of PLN's rule. The political opposition was organized around opposition to the state's accumulation. After being elected, *Partido Unidad* intended to return to the old economic model, when the state alone acted as private capital supporter. Carazo's administration (1978-1982), and the private sector, continued to draw funds from international banks, despite signals of problems, thereby deepening the debt. On two occasions, in 1979 and in 1981, the IMF offered a stabilization package to the government. Carazo's government accepted the package because it supported the neo-conservative agenda, but was unable to deliver the IMF package in the face of public opposition. By July 1981, Costa Rica had become the first nation in Latin America to unilaterally suspend all payments on foreign debt. The IMF closed its doors and Costa Rica was unable to obtain any further loans (Petch, 1989; C. Sojo, 1992; Vega, 1992).

In discussing the development transition from demand side (welfare state) to supply side (monetarist state) economics imposed by the IMF and the WB in Costa Rica, Trevor Petch (1988), a freelance journalist specializing in the Caribbean and Central America, and Carlos Sojo (1992), a researcher at *Coordinadora Regional de Investigacion Economicas y Sociales* (CRIES), argue that Costa Rica's geo-political location prevented the country's social dislocation. Petch (1988), in reporting on the Costa Rican debt crisis, maintains that deeply-troubled Costa Rica sold its geo-political-military location in conflicted Central America

to USAID and the Reagan administration to help them in their fight against communism in Nicaragua. The economy was so strangled by debt repayments, Petch argues, that Monge (1982-1986 PLN administration) was highly vulnerable to economic and political pressure from the U.S. Sergio Reuben Soto (1995), a professor at the University of Costa Rica, also observed that Monge's administration not only accepted Costa Rica's subordination to the United States of America's doctrine in terms of national security, but it also placed itself in a subordinated position to international financial institutions with respect to economic issues, assuming the ideological position of its opponents that rejected the state as accumulator. In addition to external vulnerability, Costa Rica had historical enmity with Nicaragua combined with the profound anti-communism common to the *Partido de Liberacion Nacional*. Fernando Zumbado, Costa Rica's ex-ambassador at the United Nations, said "the country was in need of foreign aid to reestablish the economy and the only possible funding source was the United States. Monge understood the Reagan administration's obsession with Nicaragua and Costa Rica's importance for the United States politic of aggression (C. Sojo, 1991: 59) Costa Rica's anticommunism was exacerbated by the demands of the U.S.

In February 1982, the *Washington Post* reported that the U.S Reagan administration allotted \$19 million to overthrow the Sandinistas (C. Sojo, 1991). In August 1984, in answer to the United States' demands that Costa Rica take a more confrontational stance, the Monge administration accused the Sandinistas of penetrating Costa Rican territory (C. Sojo, 1992: 25). The Sandinistas denounced Costa Rica for providing a base for both the contras and the armed forces of the Revolutionary Democratic Alliance (ARDE) under the leadership of Eden Pastora. These accusations were denied by the Monge administration. The accusation made by the Monge administration created a political crisis in Costa Rica that had two goals: first, it prevented social dislocation, due to the IMF and WB economic policies; and second, it created a consensus (and avoided strikes) between poor and rich that a patriotic stand was needed to confront the Sandinistas (C. Sojo, 1991).

Petch (1988) has shown that as the war in Central America USAID funds to Costa Rica escalated. In 1981, the U.S. contributed with US\$15.3 million, two thirds of which came in the form of loans. In 1982, the amount rose to US\$52 million; only US\$9 million were grants.

In addition, the Monge administration also received US\$2 million for security assistance (equipment and training for the Civil Guard). As the U.S. escalated the war against Nicaragua using Costa Rican territory, aid soared. In 1983, aid augmented to US\$214.1 million, almost a quarter of which was a grant. In 1984, although the total fell back to US\$179 million, almost two thirds came in the form of grants, with an additional US\$9million for security assistance.

By 1984 the U.S. contribution represented a staggering 5 percent of [Costa Rica] GDP, 20 percent of the cost of total imports (or half the cost of imports from the U.S.), 25 percent of government expenditure and twice the [budget of] the central government—and these figures represented a substantial reduction from the levels of 1983. (Petch, 1988: 204)

Table 7

U.S. Aid to Costa Rica, 1962--1988 (US\$million)

Type of Aid	Year									
	62-79	1980	1981	1982	1983	1984	1985	1986	1987	1988
Tot. Ec.Assis.	198.9	16	15.3	51.7	214.1	178.9	198	155	119	118
Loans	119.6	12	10	42.7	166.2	74.6	26.6	n.a.	n.a.	n.a.
Grants	79.3	4	5.3	9	47.9	104.3	172	n.a.	n.a.	n.a.
Tot.Sec.Assis	6.9	--	0	2.05	2.6	9.15	9.2	2.6	1.7	2.5
Loans	5	--	--	--	--	--	--	--	--	--
Grants	1.9	--	0	2.05	2.6	9.15	9.2	--	--	2.5

Sources: M. Edelman, *NACLA Report on the Americas*, Nov/Dec 1985, p 41 (1962-1985); Centro de Investigacion Social, Estados Unidos, *Centro America Boletin de Analisis e Informacion*, No 14-15, Feb-Apr 1987, p.19 (1986); and Coalition #55, 5 March 1987 (1987-8). Table reproduced from Petch, 1988: 204.

Carlos Sojo (1991, 1992), discussing the role of USAID in Costa Rica during the years of the debt crisis (1982-1991), maintains that the USAID and the International Financial Institutions (IFI) funds supported Costa Rica's economy and the work of the state services during the worst years of the debt crisis, preventing social dislocation. With the money poured into Costa Rica, USAID aimed to show that the transition to an export-promotion model, from a public-administration model, and to private-finance intermediation, would not affect the dominant political pact existing in the country, and that no major social disturbance would be created. Carlos Sojo (1992) argues that both USAID and the IFIs (IMF-WB) wanted to make Costa Rica an example demonstrative that economic development through the supply side model was universally valid in the developed countries as well as in the underdeveloped countries.

During the 1980s debt crisis, geo-politicking of the IMF and the WB funds was used to favour U.S. administrations. Washington needed Costa Rica's territory to fight the Cold War against Nicaragua and turned the country into a strategic military resource. PLN, overwhelmed by debt and alienated by anticommunism, allowed the U.S. to use its territory as a strategic military resource in their fight against Nicaragua, accepting USAID as a parallel state in Costa Rica. During the debt crisis, Costa Rica's elite re-established colonial relations with the U.S. in order to ensure their political survival. The PLN's political class survived by negotiating its monetary stability with USAID, IMF, and WB prescriptions.

a. The USAID strategy for Costa Rica's state: from demand side to supply side economics. The USAID parallel government in Costa Rica. Under the *Cuenca del Caribe Initiative* (Caribbean Cuenca Initiative), designed by the Reagan's administration, USAID channelled millions of dollars into Costa Rica's new development model. The transfer of money from 1982 to 1991, as demonstrated by Petch (1988), allowed the USAID office in Costa Rica to design and deliver, what it called the *Programa de Estabilizacion y Recuperacion Economica* (ERE) (Stabilization and Economic Recuperation Program).

The economic restructuring program had three components: (1) opening of the U.S markets; (2) investment increase; and, (3) direct aid. Its conditions were the active participation of the U.S. and the Costa Rica, private sector.

To deliver the ERE program, USAID stated that the Costa Rica economic crisis had three categories of problems to correct: financial, investment and privatization. To correct the financial problems, USAID promoted the development of the private banking system. To amend the investment and export-promotion problems, USAID created a private organization named *Coalition Costarricense de Iniciativas para el Desarrollo* (CINDE) (Costa Rica Development Initiatives Coalition) which concentrated on channelling foreign exchange and national currency for the expansion of the non-traditional export projects. To remedy privatization problems, USAID sold CODESA's 18 public enterprises and transferred the funds to the private sector.

In trade policy, USAID proposed the administration of the money donated by private banks, and the use of the money to buy goods from the United States. In monetary and financial policies, USAID proposed daily devaluations to increase profit in the export sector. The USAID economic restructuring, meant the deregulation of commercial and productive activities. Deregulation led to the development of portfolio investments, time reduction in the investment recuperation, and intensification in exploitation of nature and human nature.

The redefinition of Costa Rica's economic development and state role cost USAID US\$1,016.1 million. From that total, US\$936.1 million was poured into the ERE program and used as follows: US\$193.2 millions (28.1 percent) was channeled to the private sector while the import sector had US\$732.9 million (71.9 percent) available to purchase goods and services from U.S. (C. Sojo, 1992).

Between 1980 and 1990, Costa Rican debt service rose to US\$2,274 billion. The growing volume of resources that Costa Rica has had to transfer abroad to service the debt was made possible by USAID funds. In foreign debt service, between 1982 and 1987, USAID funds covered 12.8 percent of the value of the total imports. It also made external debt payments, 50.3 percent in 1983, 31.8 percent in 1985, and 49.9 percent in 1986. Between 1988 and 1990, USAID funds covered 4.9 percent of the value of the total imports. Between 1987-1990 it also paid US\$349.7 million of the US\$1,423.8 million that Costa Rica remitted as debt payments (USAID, qtd. in C. Sojo, 1992: 13). Dawkins (1992) acknowledges the use of US\$80 million in debt-for-nature swaps.

b. Rescue of Partido Liberacion Nacional (PLN). In 1982, the return of the PLN to power permitted the full implementation of the IMF-WB macro-economic policies. The new role of the Costa Rica state was to maintain fiscal discipline, direct the exchange rate, liberalize, deregulate, and privatize the economy. The Monge administration (1982-86) adopted USAID advice and renegotiated the debt with the Paris Club and the U.S. commercial banks. Following those agreements, Costa Rica started the full implementation of the IMF package agreed to in 1981. "The U.S. pressure was an open secret in the Parliament" (C. Sojo, 1992: 23). Pressured by USAID and the International Financial Institutions (IFIs) that

threatened to hold up the funds, the Monge administration introduced law reforms to guarantee a better environment for the private sector; opened the economy to market forces in order to attract U.S. investors; increased taxes and prices on the government supplied goods and services; eliminated subsidies; decreased government expenditure; devaluated the currency; raised interest rates; and tightened wage control. The effects of price liberalization and removal of subsidies had a negative impact on real earnings in the formal and informal sectors resulting in higher prices and less disposable income for survival.

In April 1984, another letter of intent with the IMF was signed. While the IMF was satisfied with the emergency measures, both the World Bank (WB) and USAID continued to press for their own demands. The WB demanded further restrictions on public spending and privatization of CODESA, the state institution responsible for coordinating much of Costa Rica's industrialization. The WB also put the pressure on for a new Central American Common Market tariff regime at lower rates, while USAID demanded privatization of CODESA and currency reforms (Petch, 1988).

In May 1984, increasingly influenced by the Reagan government, the Monge government set up a military airport at El Murcielago, 16 kilometres from the Nicaraguan border, which U.S. advisers used for resupplying the Nicaraguan contras and training the Costa Rican Civil and Rural Guard in "antiterrorist measures" (Petch, 1988; C. Sojo, 1992). The area happens to be owned by two North American citizens: one of them is owned by the Jimmy Swaggert Ministries (Hitz, 1989). (In 1999, El Murcielago airport is being used by United States tourists to visit Costa Rica. U.S. eco-tourists pay US\$200 for a return flight from Atlanta to Liberia.)

The Arias administration (1986-1990) opposed the "contras" presence in Costa Rica and U.S. President Reagan's Central American policy. According to Petch (1988), Arias's plan erased Costa Rica's shameful attitude towards Nicaragua. Arias's administration received less favourable treatment at the hands of the Reagan administration and the IFIs. Until 1986, Costa Rica received 29.6 percent of aid from the U.S. to four Central American countries (El Salvador, Honduras, Guatemala, and Costa Rica), but in 1987 that figure fell to 19.1 percent.

In 1987, as Arias developed his Peace Plan for Central America, USAID deferred US\$120 million until September, while the IMF held back a US\$55 million stand-by loan and insisted on further reductions in the budget and fiscal deficit (Petch, 1988). In those years, according to Cox (1992), aid to Costa Rica from Canada also plummeted from \$16.17 million in 1989/90 to some \$9.5 million the following fiscal year. Canada's prime political objective was maintaining an amicable and profitable bilateral relationship with the United States.

Arias, who was opposed to the presence of the contras in Costa Rican territory, did not intend to change the supply side economic model. Between 1988 and 1990, government efforts centred for the most part on price stability and promotion of investment, as well as growth in the non-traditional sectors of goods and services and tourism promotion. Investment and export promotion were supported by public subsidies. High rates of profit were guaranteed through tax exemptions and other fiscal incentives.

Professor Arnoldo Mora, in response to my inquiries about the role of USAID in Costa Rica, comments:

Don't ask for ethics from those who have an empty stomachs (*No le pida moral a quien tiene el estomago vacio*). Monge's administration avoided the confrontational situation that other Latin Americans lived with which permitted the majority of Costa Ricans to be able to eat. Costa Ricans decided that the best policy was to be quiet because they knew that if they protested, like in other Latin American countries, they were going to suffer the same fate (disappearances, dead, exile etc.). Simply, the political class of Costa Rica is clever, that is why it is still alive. (August 20, 1999)

USAID money did not reduce poverty, as will be shown in the chapter, but it was the only way that PLN's political class survived.

In 1989, Costa Rica and the IMF signed a new stand-by agreement for the continuation of the economic policy and the restructuring of public finance. It soon became clear to the creditors that the targets given in the letter of intent to the IMF would not be reached. Until the government complied with their demands, the IMF withheld US\$20 million and USAID held

back US\$60 million (Petch, 1988). In 1990, USAID and the IFIs were satisfied with the application of their policies, and Costa Rica was included in the Brady Plan Accord that restructured the commercial banks' loan agreements. Costa Rica's inclusion in the Accord restored investor confidence and capital investments from U.S., Europe, and Asia returned.

Table 8 shows the changes taking place in the investment structure. Investment in Costa Rica between 1992-1997 was three times higher than between the years of 1986 to 1991.

Table 8

Investments Between 1986-1991 and 1992-1997

Average Investment 1986-1991	Average Investment 1992-1997
118	366

Source: *Global Development Finance* (1998). A World Bank Book.

D. Reorganization of Production—the Agro-export Model

Since 1840, Costa Rica has been dependent upon the export of its agriculture production of coffee, banana, cacao, sugar, and cattle ranching. The state policy was articulated around these production systems, particularly around the processing and export of coffee. Historically, Costa Rica had a special position in the London coffee market. By the early 1930s, Costa Rica supplied over 40 percent of English consumption (Winson, 1989: 107).

Since the debt crisis, the IMF and the WB pressured Costa Rica to increase its export income in order to earn more hard currency that could be used to pay the external debt. The basic idea behind this new policy is that the country's structural problems can be solved by increasing non-traditional export production. This so-called "non-traditional agriculture" is also called *Agricultura de cambio* (Agriculture of Change) and/or alternative production. Non-traditional rural development programs involve agricultural intensification through green revolution, based on the use of petrochemical fertilizers, herbicides and pesticides, and heavy machinery.

In rural areas, two types of investments were designed to augment productivity and diversification of production based on biodiversity. The first type is one based on large capital requirements. Coffee, banana, beef cattle and non-traditional agro-exports (pineapples, oranges, lemons) are capital intensive programs directed at agricultural entrepreneurs who had sufficient resources to invest in agribusiness. According to Alonso Ramirez and Tirso Maldonado (1988), from Costa Rica's Neotropical Foundation (*Fundacion Neotropica*), this policy accelerated the concentration of land into large commercial farms and was responsible for the increase in the number of rural landless.

The second type of investment is based on small loans. Credit is directed to thousands of *campesina/o* families who live in small *fincas* (farms) and/or *asentamientos humanos* (squatter zones) barely able to eke out their livelihood. The Ministry of Agriculture and Livestock's (MAG) role changed its traditional support for cash cropping among the peasants. The Ministry of Agriculture and Livestock moved from supporter to executor of rural development programs based on non-traditional agriculture. The *Consejo Nacional de Produccion* (CNP) (National Production Council) was reformed in January 1998, and a Productive Reconversion Program (PRP) was created under Law no.7742. PRP's goal is to increase small and medium *campesino* competitiveness in the international market through the creation of new enterprises and modernization of the old ones with the incorporation of modern technology in the productive systems. The producers of pineapple, tropical flowers, *palmito* (hearts of palm), *jenjibre* (ginger), medicinal plants, ornamental plants, and foliage are in this category of enterprises. Some of those are classified as organic agriculture for alternative commerce (Gonzalez, 1998).

Ostensibly, non-traditional agriculture is successful. To be successful peasants must become entrepreneurial; if unsuccessful, they will sell their labour to the agro-export companies. In cases where these requirements are not met, indebted poor peasants have to give up whatever small portion of land they may hold.

Alienated by the dominant economic development culture, Costa Rica's policy-makers and agronomists do not recognize that the decision-making power in rural areas depends on

international central politics. They see the peasants' market failure as a result of their traditional peasant culture. According to the policy-makers, peasants are in need of "development" but they do not adopt innovations quickly, and/or are unable to make long-term plans. What is clear is to me is that the central politics of IMF-WB is to cheapen the prices of Third World resources and labour in favour of the industrialized world. Countries are forced to produce the same products and compete for the same consumers, the industrial countries' consumers.

1. Land Use

The privatization of open spaces is considered the most important historical event in the formation of capitalism. Traditionally U.S. multinational corporations enclosed Costa Rica's land and converted it into cattle ranches and banana plantations. Parallel to this process, the local business community which was supported by the state, enclosed land for use as coffee plantations. To support coffee production the formation of small and medium *campesino* land property owners was crucial. In 1940, a survey of the distribution of coffee trees among all producers was undertaken. The data shows that the great majority of farmers had under 2,000 trees each and controlled 12.5 million trees. Less than one percent of the growers, the 170 haciendas with 50,000 trees each, had about 20 million trees in all (Facio, in Winson, 1989: 18). Between 1952 and 1973, land devoted to agro-export crops such as coffee, banana, sugar cane and cotton, increased by 104 percent, while the land dedicated to basic food crops (maize, beans, and rice) increased by only five percent, although this was the period when the population growth in Costa Rica was one of the highest in Latin America (Brockett, 1988).

To be successful with the structural adjustment policies implies large land area, high capital investment in inputs, intensive use of agrochemicals, modern techniques, and technologies. This means good access to credit, technology, and marketing. To develop monoculture multinational corporations, wealthy local landowners and politicians have joined forces in land-grabs, seizing the best land for themselves and leaving millions of Costa Rican *campesinas/os* to fend for themselves on marginal land (Korten, 1994).

These land grabs by foreign and local business deeply divided Costa Rica in terms of land control and power. Excluding the owners of one hectare, 83.4 percent of the land owners with less than a 100 hectares control 1.12 percent of the national territory, while 0.71 percent of the owners with more than a 100 hectares own 70.3 percent of the country's territory (*El Estado de la Nacion*, 1996: 68).

In 1985, 9.4 percent of the national territory was used in permanent and annual crops. From that, 2.4 percent in coffee, 0.8 percent in sugar cane, 0.6 percent in banana, and 3.3 percent in annual cultivation. Cattle raising land occupied 32 percent, while 5.6 percent was in charrales (Quesada, 1990: 20).

a. Coffee. Since 1948, coffee revenues have been the motor of economic development, determined the resources put into the diversification of the country's economic structure, and established the longer term success or failure of a program of welfare capitalism and liberal democracy. Therefore, the government provided the main support to this sector (Winson, 1989). For instance since 1950, when prices were high, the biggest problem for small peasants was the cash investment required to establish a coffee plantation, as well as the three-year period needed for the crop to reach maturity. To facilitate the situation, the government started an active campaign of credits for small-scale coffee growers, and the Ministry of Agriculture and Livestock (MAG) carried out a national education program on the management of a coffee plantation. Coffee was the main crop through the 1980s and 1990s.

b. Banana. Banana is the symbol of Costa Rica's colonization. Commercial banana production started when the Costa Rican government paid for the railway, with land along the railway, to Minor C. Keith, a New York engineer. On that land, he built the first United Fruit Company which later extended to other Central American countries. That enterprise became Chiquita Brand International Inc. United Fruit Company's central role in Costa Rica was to give it the name "Banana Republic." United Fruit Company was the political and economic U.S. power installed in Costa Rica. Costa Rica is still dependent on banana export. In 1998, the main export enterprise was Standard Fruit Company that exported 32.89 percent

of the total export. It was followed by Banana Development Corporation (BANDECO) that exported 29.43 percent, and *Compania Bananera Atlantica* (COBAL), a subsidiary of Chiquita Brand International Inc, that exported 18.04 percent. In 1990, banana export income was US\$338.27 millions for 74.13 millions of boxes of 18.14 kilos; while in 1998 it was US\$662.89 for 115.82 million boxes of 18.14 kilos. In 1990, banana export employed 18,845 workers and 31,469 in 1998 (Barquero, 1999).

c. Cattle ranching. Cattle Ranching occupies most of the national territory; 32 percent in 1985. The land being cleared and enclosed is extremely thin, contains very little nutrients, and has been saturated with huge amounts of chemicals needed to grow the pastures for feeding. After just a few short years of grazing—generally three to five years—the soil is depleted, forcing cattle ranchers to clear more virgin land and to use large amounts of pesticides (Rifkin, 1993).

d. Citrus plantations (oranges, lemons). Big companies are buying farm land. With the price of land comes the eligibility for tariff and tax exemptions, not available to peasants. For instance, “Ticofruit, an agro-export company that sells canned orange juice to the United States and Europe, owns the 7,000 hectares and the orange trees” (Korten, 1994: 56).

2. Productivity Increase Based on Chemicals

Since the green revolution, the incorporation of chemical fertilizers on a regular basis in coffee and banana plantations has been an integral component of state programs aimed at intensifying agriculture to improve the economy. The rise of the agro-industry production/revenue is based on the increase of productivity through applications of fertilizers, pesticides, herbicides, and fungicides. Between 1957 and 1963, the agriculture sector grew 4.3 percent; coffee and banana, represented more than 60 percent of the total production. Between 1963 and 1973, the sector grew by 7.1 percent due mainly to banana crops, followed by coffee and sugar cane production. Between 1973 and 1985, agriculture grew 2.3 percent, and coffee represented 37.1 percent of the total (Ramirez and Maldonado, 1988).

Table 9 shows coffee and banana productivity. Between 1955 and 1984, coffee productivity increased by 39 percent while banana productivity increased by almost 47 percent. By the late 1970s, Costa Rica had virtually the highest productivity per hectare of any other coffee-producing country in the world (Winson, 1989). Since 1982, agriculture of change produced intensification of land exploitation for export purposes through high input and high risk crops.

Table 9

Average Productivity of Coffee and Banana per Hectares in metric tons

Crop	Years				Percent
	1955	1963	1973	1984	
Coffee	23	36	47	59	39
Banana	203	227	346	436	47

Source: Ramirez and Maldonado, 1988

Structural Adjustment Programs (SAPs) intensified the promotion of commercial production and the export of raw materials and agricultural products. Between 1981 and 1984, Costa Rica consumed 32 percent of 2,251,400 metric tons of fertilizers, the most the country consumed between 1970 and 1984 (Ramirez and Maldonado: 1988: 56). Between 1970 and 1985, pesticide import grew from 5.6 to 12 million kilograms. By 1988, import was reduced to 8.4 million kilograms due to an increase in internal production (Ramirez and Maldonado, 1988).

Costa Rican development, based on agriculture and cattle ranching which were supported above all other activities, led Costa Rica to apply the highest rate of fertilizers in Latin America (Ramirez and Maldonado, 1988: 56). In 1984, the annual average application of pesticides was 4 kilograms/ha. Pesticides have destroyed hectares of agricultural land, particularly in two provinces: Alajuela and Punta Arenas. In 1984, the average application of fertilizers was 139 kg/ha. in the crop area (Ramirez and Maldonado, 1988: 56). Between 1983 and 1985, Costa Rica used Official Development Aid (ODA) (Loan Agreements) with Canada for the use of three lines of credit for fertilizers (MOU, 1995). The Canada–Costa

Rica debt-for-nature, signed in 1995, pays the ODA loan to Canada and it is the case study of this thesis.

As agriculture is the main source of income and coffee and banana its main contributors, the activities of these estates have not just organized the social relations but have created major environmental impacts. Deforestation and agro-chemical residual from the beneficio del café are the main source of water deterioration and contamination, and erosion (Ramirez and Maldonado, 1988). The results of the application of chemicals can be far reaching, as in the destruction of watersheds that spread the effects of deforestation to other areas, as runoff fouls waterways and flooding becomes an increasing problem. The social and environmental costs that these type of production (coffee, banana, sugar cane and cattle) generate cannot be integrated in the price of the export products representing an ecological subsidy to the international market.

Peasants also are urged to intensify productivity through use of agrochemicals which increases production costs. Peasants began to raise heavy loans to expand their *finca*'s plantations, as interest rates are high. As loans are "productive loans," debt must be paid by subsequent harvests. In this way, peasants become more dependent on agriculture politics. The bank loans rest on the decisions of agronomists who control peasant land. Agronomists force peasants to use specific fertilizers and specific pesticides in the production process, and force the sale of harvests where the loan was raised. All this precaution is taken in order to make sure that the loan is paid back.

3. Changes Taking Place in the Productive Structure

Since 1984, as we have seen, the defining role given to the market has deregulated traditional instruments that protected agriculture. Thus, the economic transformation taking place in the country decreased the importance of agriculture and further devalued production for family consumption. Table 10 shows agricultural production dropping from 3.1 percent, during the 1980s, to 2.9 percent between 1990 and 1997.

Table 10

Costa Rica's Productive Structure – 1980 to 1997 Average Annual percent Growth

Sector	Years	
	1980 - 1990	1990 -1997
Service	3.1 percent	4.0 percent
Exports Goods and Services	6.1 percent	8.7 percent
Agriculture Value Added	3.1 percent	2.9 percent

Source: *Global Development Finance 1998*. A World Bank Book

As agricultural participation at the national level has decreased, while export of goods and services has increased, poverty in the rural area has risen from 24.6 percent in 1993, to 26.1 percent in 1994, to 27.6 percent in 1995, and 27.7 percent in 1996. Of this number, 11.2 percent live in extreme poverty, while 16.5 percent can not satisfy their basic needs (*El Estado de la Nacion*, 1996: 219).

E. Emerging New Class Relations

Cuts in social assistance programs, achieved by USAID and the IFIs to pay the external debt, eliminated the state's ability to deliver social services. But USAID picked up the task during Monge government by administering a "Social Compensation Program" and during the Arias regime by administering a "social housing" program (C. Sojo, 1992). During the Arias administration, reduction of USAID funds and a decline in the value and volume of Costa Rica's main agro-exports led to deterioration in Costa Rican living conditions and increased discontent in all classes. Farmers demanded access to credits, small farmers campaigned for a reduction in duties on fertilizers and greater state support, while large coffee producers were opposed to the higher interest rates demanded by the IMF. The poor were further impoverished by the decline in rural bus services and the rise in the price of water supplies, electricity, and daily devaluations. Costa Rica's opposition groups achieved partial success in resisting social spending reductions. But, in general, Costa Rica's governments did not confront popular insurrection, general strikes, food riots, guerrilla warfare in imposing stabilization and SAPs because of the tight control of Costa Rican society.

1. Class Reconstitution

The reorganization of the productive activities produced disequilibrium within groups and social classes. Social effects in income distribution and recomposition in the social class is examined by Jose Luis Vega Carballo (1992) and Carlos Sojo (1997).

Vega Carballo argues that the relative increase of Costa Rica's export production was achieved through real-wages depression of the working class which resulted in a reduction in the basic living conditions of 70 percent of wage-workers. Vega Carballo (1992) shows that unemployment officially increased from 5.9 in 1980 to 9.4 in 1982; real wages dropped by 40 percent between 1979 and 1982; global production descended by 6 percent; and per capita consumption plummeted from 5.6 percent in 1978 to 17.3 percent in 1983. All of this occurred during an inflationary process that fluctuated between 80 and 100 percent.

Vega Carballo (1992) also states that, on the one hand, between 1977 and 1983 the percentage of poor families⁵ in the urban area increased from 8.5 percent in 1977 to 22.8 percent in 1983, while in the rural areas the percentage of poor families jumped from 17.4 percent in 1977 to 37.2 percent in 1983. On the other hand, extreme poverty⁶ increased from 17.7 percent of the poor in 1980 to 36.8 in 1982. By 1988, poverty had stabilized at 14.9 percent. The rate of extreme poverty in urban areas was 8.4 percent while in rural areas it was 20.2 percent.

Vega Carballo (1992) has shown that in relative terms, between 1987 and 1991, extreme poverty increased by 3.2 percent while poverty rose by one percent; in absolute terms, extreme poverty increased almost 50 percent while poverty rose by almost 20 percent. Combining individuals and family units and poverty and extreme poverty, in 1987 poor

⁵ A family living in poverty has an income that covers food needs, but it does not satisfy other basic needs such as clothes, medicine, house, education, transport, recreations, etc. (Vega Carballo, 1992).

⁶ A family living in extreme poverty has no income (Vega Carballo, 1992).

individuals constituted 18.1 percent of the total population, while family units made up 17.4 percent. But, by 1991 the percentage of poor individuals had increased to 22.9, while the percentage of poor family units rose to 21.1 percent of the total population. In addition, Vega Carballo adds, 20 percent of possible informants were never registered, and therefore, he estimates that around 30 percent of the population belong to this group.

Carlos Sojo (1997) shows that the middle class was divided. While some lost their middle class status and became the “new poor”⁷ others managed to still formally maintain their status as middle class. Theoretically, according to Sojo, the “new poor” are the segments of the middle class that fell under the poverty line during the 1980s and had to carry out emergency measures to satisfy their basic needs. In this category are salaried workers and fixed pensioners. Due to inflation, the majority of the new poor were working. Focusing on the consumer side, Sojo argues that both the new poor and the remaining middle-class are making efforts to maintain consumer strategies by reducing expenses, in a desperate attempt to maintain a place in the social game.

By the end of the 1980s, the degree of inequality in Costa Rica was heightened. Between 15 percent and 29 percent of families from the Central Urban Area monopolized 70 percent of the national income. They controlled the state apparatus, financial capital, bonds market, investments and transfer of credit, information-communication technology, and tourism (Vega Carballo, 1992).

2. Structural Poverty

The debt created during the process of development/industrialization has nothing to do with the majority of Costa Ricans who are, in fact, repaying the debt. Economic development was supposed to eliminate poverty, inequality, and external dependency through industrialization. Instead, economic development produced a deeply indebted Costa Rica that intensified the

⁷The “new poor” are the ones who dropped to new positions as poor (C. Sojo, 1997).

economic problems of extended groups already living in poverty, and increased the number of poor.

At the beginning of the 1980s, structural poverty affected 7 percent of families, but by 1990 15 percent of the population became the new poor. The size of new poor was bigger than the other poor segments of the population, meaning that new poor sectors were added in 1980 to the existing poor. The majority of poor families were headed by women (C. Sojo, 1997). In 1991, President Calderon (the second president of *Partido Unidad*) recognized that three of every ten families live in poverty. Thirty-six percent of these families were headed by a woman who earned under the minimum wage; 72 percent of the poor lived in rural areas, and young people suffered 10 percent of unemployment whereas 4.6 percent was the national average (*La Nacion* qtd in Vega Carballo, 1992).

In 1999, one in five Costa Ricans are poor. There are 110,822 child workers (less than 15 years old), only 108 of whom are listed by the Ministry of Labour because they mainly work in the informal sector. They do not earn the minimum wage, which is c/ 51, 558 (1999), and work longer hours. Of these child workers, 44.12 percent are employed in agricultural farming, 16.67 percent are in manufacturing, 16.67 percent are in packing factories, and 22.44 percent work in general stores. Of the total, 52.9 percent have completed elementary school, 21.5 percent have not completed elementary school, 3.9 percent never went to school, while 15.6 percent did not finish high school. The majority of these children work in Alajuela (54 percent) and San Jose (18 percent) (Ramirez, 1999).

Commenting on poor young people's life conditions in Costa Rica, Bente Sorensen (qtd in Solano, 1999), Official Assistant to UNICEF in Costa Rica, comments: "female children and adolescent situation are deficient. Their human rights are not upheld." Among the problems young females face are high levels of pregnancy, prostitution, chronic malnutrition, barriers to completing their basic education, and poor working conditions. The report prepared by Sorensen for UNICEF says that Costa Rican women are fragile because they are poorly fed during their first years of life. This is the main reason they are small in size and also why so many are "mentally retarded." In Costa Rica, 29,607 girls work in service and farming. These

sectors are considered the worst paid. Girls represent 26.7 of the total 110,822 children workers. 14 percent do not go to school, while 86 percent still go to school. Most girls work more than 40 hours per week (Solano, 1999).

F. Poor Women's Crisis

Early integration with the international market through the production of coffee and banana, has made the market the organizer of the productive relations in Costa Rica's rural areas. But, Costa Rica was never the investment centre in Latin America, even though it promoted its raw material and cheap labour as abundant. Costa Rica worker's are poorly paid because, according to the WB's theory of economic development, Costa Ricans have "low productivity" and local enterprises do not have the new technology needed.

The economic crisis faced by Costa Rican women became recognized during the debt crisis. To confront women's growing poverty, the Arias administration created the Women's National Program. This program was aimed at incorporating women into the productive process. However, training programs only included women leaders and the activities were limited to the traditional role of cooking, sewing, and cleaning (Cruz Ramirez, Fallas Alarcon, Navarrete Davila, and Varga Alfaro, 1988). According to Cruz Ramirez *et al.* (1988), no policy of job creation for women was implemented, but the crisis pushed women outside of the household, looking for jobs to earn an income.

Women's integration into the market started around 1950. Since then, women's participation in the Economically Active Population (EAP) has grown from 15.5 percent in 1950, to 18.4 percent in 1970 and 22.1 percent in 1990 (Valdes and Gomariz, 1995: 69). According to Teresa Valdes and Enrique Gomariz, women's selling of their labour in the market made their contribution and participation more visible, but the proportion of women reported in the EAP might be lower because of the statistical under-reporting of women's activity in rural areas.

From 1987 to 1996, women's activity rates in Costa Rican urban areas grew 0.9 percentage points on the average (from 34.5 percent to 35.5 percent) whereas in rural areas the rates increased 3.7 percentage points (from 20.6 percent to 24.3 percent) (*El Estado de la Nacion*, 1996: 222).

The labour market is highly segregated and women find work in certain stereotypical women's jobs (like cook and housekeeper, store clerk, secretary, teacher, garment worker). There are also marked differences between women's employment and men's employment at all levels of the job structure. In 1992, on the women's side (including the work of those aged 12 years and older), the service sector⁸ included 69.5 percent of all employed women; 5.5 percent of the women worked in agriculture; and industry employed 25.0 percent. On the men's side, 40.6 percent worked in services; 32.1 percent worked in agriculture and 27.3 percent worked in manufacturing. In 1990, women were the majority of salaried workers, accounting for 79.6 percent, while men were 72.2 percent; and the majority in the case of non-wage-earning household workers (4.2 percent) compared to men (1.2 percent) (Valdes and Gomariz, 1995: 80). Since women's work is assumed to be low in productivity, there are substantial differences in wage levels. In the urban areas, women's wages are 25 percent lower than men's wages. In the rural areas women's and men's wages are both depressed and unchecked.

1. Poor Women's Crisis in Urban Areas

Urban women found jobs at the Transnational Corporations' (TNCs) *maquilas* that were supported by communication developments, particularly computer networks, and that assumed commercial control over Costa Rica's cheap work force. The number of *maquiladoras* in 1972 were six, in 1976 they were 14, and by 1983 they had risen to 53. *Maquila* is the expansion of the multinational machine from the core countries that consists

⁸.Service sector covers a broad range of professions and trades, from managers and administrators in the financial sector to street vendors, but the majority of women are in the low-paid jobs such as hotels, restaurants, tourism resorts, and packing factories (Valdes and Gomariz, 1995).

in assembling products made in different parts of the world and/or making the whole product in one place, such as in textile production. Once the products are finished, they are returned to the transnational corporation for marketing, usually in the industrialized countries. According to Jorge Mora Alfaro (1984), *maquila* is an important way to reduce a company's costs of production by: a) paying much lower salaries than those of industrial countries; b) paying for piece-work; and c) hiring women. In the *maquila* industry there are no contracts and working time is irregular. In addition, the TNCs avoid investment in factories, machinery, energy, and depreciation of equipment and tools because the national industry, or the workers themselves, provide their own equipment, machinery, and their even their own houses as a location for work. Furthermore, in any industrial activity, the average women's salary is traditionally much lower than the men's salary. According to *Organizacion Internacional de Trabajo* (OIT), in 1977, men's salary was c/1,416.00 while women's salary was only c/951.00. In 1980, men's salary was c/2,016 while women's salary was c/1,407 per month (Mora Alfaro, 1984).

Women's migration from rural to urban areas increased due to the opening of maquiladoras. The labour-cost-intensive production processes, relocated in Costa Rica (textile and garment industries), found in women the cheapest, most docile and most manipulable workers.

2. Women's Crisis in Rural Areas

Women's work in rural areas is frequently linked to production for family consumption and not for the market. Therefore, there is no salary involved. No figures can reflect the length of the usual work day, or the fact that participation in agricultural activities is limited to seasonal work (Valdes and Gomariz, 1995).

Rural women's participation in the market increased from 22.4 percent in 1987 to 25 percent in 1996. Rural unemployment is 5.7 percent less than at the national level, but women's unemployment is higher (10.1 percent) than men's unemployment (4.2 percent) (Valdes and Gomariz, 1995: 71). One clear reason for this is because women, as a general rule, do not own land.

As poverty has increased in rural areas, women have been forced to look for jobs outside the *finca*'s household. According to Morley and Alvarez (1992), the increase in the export of goods and services, and particularly non-traditional agriculture exports, have favoured women's incorporation into paid productive activities. However, with depressed wages in the rural areas, having a job does not necessarily ensure that people are well off. A new feature of the employment profile in Costa Rican rural areas is self-employment (without keeping books and without benefits). Since 1990, the growth of the service sector has been accompanied by a tendency toward self-employment and wage work in small businesses and micro-enterprises. In general, these jobs are usually low paid, insecure, waged work. This trend includes a considerable number of women. These women usually represent what Maria Mies (1996) describes as "the housewifization of labour."

While on the whole, rural families are impoverished, women are the major losers. In Costa Rica the rural population is divided between those who are self-sufficient (almost non-existent) to those in transition to urban life. Women's condition is framed by the process in which women and the rural family are caught.

Grettel Baldizan and Francisco Guido Cruz (1987) demonstrate that, in general, rural women's labour is divided into three types: (a) as domestic workers—women cope with lack of basic services, such as treated water, electricity, and toilets (*servicios sanitarios*), day care, health care; (b) as agricultural workers—women maintain the family unit while man go to work for a salary outside the unit and/or outside the area, even though governments discourage work that satisfies needs and ensures sustenance to create growth in the market economy. This situation has significantly increased women's work day; and (c) as agricultural salaried workers—women are forced to sell their labour outside of the family unit, due to small-scale property destruction. As salaried-seasonal workers, women have no social and economic benefits accorded by law. Their salary is less than a man's salary because women's work is considered secondary. In 1985, the General Direction of Women and Family reported that close to 60 percent of rural women earn salaries that are less than the legal minimum, and 34 percent earn almost half of the minimum salary (Baldizan and Guido Cruz, 1987).

Baldizan and Guido Cruz (1987) also argue that in the 1980s, Costa Rican rural women's situation had the following characteristics: (a) high economic dependence that created personal and social subordination; (b) low communal participation because rural women are considered to be less capable of taking part in communal affairs; (c) low educational level because education is seen as not necessary for women since women's work is attached to the domestic sphere (cooking, washing, cleaning, and rearing children). Women perform free work in the agricultural land of their husband or parents; and, (d) bad health/ malnourishment resulting from high levels of procreation. Since rural women's work is not recognized, the negative impact of the economic development on women is unrecognized and unrecorded.

In Costa Rica, as in most societies, women's contributions to both subsistence agricultural production and market production have been unrecognized. The bulk of work performed by women is overlooked, and therefore women's productivity has been assumed to be low. According to Marilyn Waring (1993), women's exclusion is achieved by making women's contribution to subsistence production and to market production invisible, and by leaving the negative impact of economic development and growth on women unrecognized and unrecorded.

In Costa Rica, women's marginalization has been deepened by the state-sponsored export-led growth model of development where the impetus and capital, once again, come largely from abroad. Costa Rica's ruling class reduced their own women to the status of dependent, *capito diminuto*, de-skilled, and malnourished, discriminated against in access to land, participation, education, and employment. The diminished status of women, in general, makes them live in fear of their partners. The following figures indicate women's low status: Between June and July 1999, six women were assassinated by their husbands and ex-boyfriends. Within the first six months of 1999, 2,794 women denounced aggression. In June alone, 532 cases of violence were registered (Rodriguez, 1999: 10A).

G. Conclusion

This chapter traced the rise of neo-colonization in Costa Rica. A result of the debt crisis, neo-colonization established new and more effective forms of domination and control. Costa Rica cannot be seen as a successful case of supply side (monetarist) policies in the underdeveloped world. It was not the monetarist policy that stabilized the country but a) the disorganized action of the poor; and b) the protection of the U.S. The United States used Costa Rica's geopolitical location to fight the Cold War and to secure the Panama Canal. Now that the Cold War is over and the Panama Canal ownership is transferred, Costa Rica is no longer the United States' partner.

Economic development was a myth in Costa Rica. It did not deliver what was promised, that is, industrialization. Instead, in the name of modernization, it maintained a significant part of its population in poverty. The price for this was paid mainly by rural communities, rural families, and rural women.

Chapter Three

Environmental Crisis: Sustainable Development in Costa Rica – 1989 to Date

We realize very clearly that we will succeed in this venture only in so far as we can count on enthusiastic participation from Costa Ricans and the international collaboration of friends who are as interested as we are in finding solutions to the complex problems of harmonizing national development with conservation of the environment. (Figueres qtd in Sancho, n.d.)

The information presented in this chapter was collected from the Internet sites around NGOs dealing with debt-for-nature swaps as well as the official web pages of the World Bank and e-mail correspondence with WWF regional office in Costa Rica. I also used the libraries of the University of Toronto, the Peace University of Costa Rica, and the University of Costa Rica as well as *the Centro de Documentacion y Comunicacion del Area de Conservacion Arenal* in Tilaran which has the documentation on the Arenal Project and participants (WWF-C and MINAE) and the WWF regional offices in Turrialba which has information about WWF activities throughout Latin America.

I had hoped to have access to WWF-C documents in Toronto before leaving for Costa Rica. The WWF-C is the NGO contracted by CIDA to implement the Arenal Project and their office in Toronto supports the WWF-C office in Costa Rica. During my second trip to Costa Rica, I met Mr Steve Price, head of the WWF-C Toronto office, in *El Albergue La Catarata*, in Z-Trece. He was on a family vacation and asked me to call to his Toronto office for an appointment to get an interview, but on my return, my attempts to communicate with him failed.

I also hoped to have access to the Memorandum of Understanding (MOU) between the government of Canada and the government of Costa Rica. This is the key defining document of the Canada-Costa Rica debt-for-nature swaps and is reproduced in Appendix I. At CIDA's office in Ottawa I was told that any information regarding to Canada-Costa Rica debt-for-nature swap was handled by the Canadian Embassy in San Jose. I had no trouble obtaining from the Canadian Embassy the Memorandum of Understanding. My sense is that the

Canadians and their partners in these ventures, WWF-C, do not wish that the terms of their many and various debt-for-nature swaps around the world be available for easy comparison.

During my first visit to Costa Rica, I lived three weeks in Turrialba and commuted every two days to San Jose. Turrialba is located two-and-a-half hours from San Jose in the south-eastern part of the country. While I lived there, I had the opportunity to look over the library of the *Centro Agronomico Tropical de Investigacion y Ensenanza's* (CATIE) (Centre for Tropical Agronomy Research and Education) and the World Wildlife Fund Library. CATIE is an international organization focussed on tropical agriculture, forests, and biodiversity management. The WWF in Turrialba is the Central America Regional Office of the World Wildlife Fund that is involved in many debt-for-nature investments in Central America. Months before I moved to Costa Rica, I had the opportunity to interview Mr Miguel Cifuentes Arias, the regional representative of the WWF; by e-mail. Once I arrived in Turrialba, I was able to arrange a second interview at the WWF office.

In the period between my visits to Costa Rica I gathered much information of use at the "Natural Capital Workshop" held in Toronto in April 1999. This workshop grew out of the World Bank's desire to guide their environmental managers in making investment decisions in countries around the world that are compatible with a commitment to sustainable development. It brought together academics and policy-makers. In that workshop it became clear that both economists and environmentalists in these debates see nature as inputs for industry.

Don Felipe Matos, from Peace University, helped to coordinate interviews with Dr. Carlos Quesada, President of *Estrategia de Conservacion para el Desarrollo Sostenible* ECODES (Costa Rica's Conservation Strategy for Sustainable Development) and the acting president of the *Centro de Investigaciones en Desarrollo Sostenible* (Sustainable Development Institute); and with Dr. Carlos Issac Perez, economist of the *Banco Interamericano de Desarrollo* (Inter-American Development Bank (IDB)). Their time spent with me is much appreciated. I quote them directly in the analysis which follows with their permission.

Historically, industrialized countries benefitted from the work of peripheral countries (Furtado, 1970; Galeano, 1973). Unequal exchange was established as the basis of investment, particularly in commerce, through the control of selling/ buying processes by powerful industrialists. In the 1980s, during the so-called debt crisis, the International Monetary Fund (IMF), the World Bank (WB), and Stabilization and Structural Adjustment Programs (SAPs), linked Costa Rica directly to the economic development process. Both, the IMF and the WB investments required that indebted countries be integrated into the global economy, deregulate and liberalize their economies, shift from agriculture-based to a manufacturing and service industry-based economies, and liberalize the financial sector. With the advent of sustainable development, the IMF and the WB have included tourism as part of their Stabilization and Structural Adjustment Program (SAPs). Eco-tourism has been classified as an export strategy. It means foreign exchange and investments. Eco-tourism is an extension of commodification of the modern life and an integral part of modern consumer culture. However, environmental NGOs' belief in geographical mapping is making the IMF and WB dreams of globalization possible.

Chapter Two presented the transformations of the productive structure that has been taking place in Costa Rica since the end of the 1980s. As the implementation of USAID, IMF and WB policies have proven insufficient to integrate and open up Costa Rica's dependent economy, new and more subtle forms of management and control are, thus, put into operation. Programs of environmental management to integrate nature and human nature into the world market have become integral to sustainable development. Sustainable development is the new development imposed by the industrialized countries on the non-industrialized countries as a way to confront debt and environmental crisis. Costa Rica's governments, knowing the limitations of their local producers, accepted and respected the rules imposed by the industrial countries, causing further subordination of Costa Ricans to the interests of international capital.

Until the late 1980s, Costa Rica's economic development reflected the industrialized countries' interest in maintaining non-industrialized countries as a source of inexpensive, raw material and cheap labour. Since 1989 Costa Rica is an important area for sustainable

development. The significance of tropical rain forests in ecological terms, its properties as carbon-fixing trees and soil avoid erosion, and its potential for medicinal discoveries as well as new food plants cannot be underestimated. In particular, Costa Rica's present liberal democracy is highly valued and further makes the country an attractive proposition to potential investors.

The simple starting point in this thesis is that debt-for-nature investment is much more than funds allocated to specific NGOs projects. Rather, it is an ideological framework that needs to be investigated. This chapter examines the sustainable development framework that proposes to address the debt and the environmental crises by expanding natural and human capital through marketing tropical nature and people's work for capital accumulation.

A. Sustainable Development World Bank Style— Expanding Natural and Human Capital

The redefinition of conservation objectives within economic restructuring permeates the concept of sustainable development. Sustainable development describes a process in which the natural resource base is not allowed to deteriorate. Sustainable development, as defined by David Pearce and Jeremy Warford (1993) from the World Bank Environment Department, stresses the importance of permanent growth and development based on the industrial world experience. Pearce and Warford argue that sustainable development is good, desirable for the entire world, including and most particularly for the so-called underdeveloped world. If poverty is to be reduced and the standard of living of the average person improved (in developing countries), economic growth must remain a legitimate objective of national governments and the world economy (Pearce and Warford, 1993). They argue that environmental destruction is simply part of the price that must be paid to achieve a higher standard of living. They claim, for instance, that the industrial world sacrificed environmental quality for real income, but, after this transition was over, the industrial world currently lives in sustainable development.

The Comprehensive Development Framework, developed by the World Bank, explains sustainable development as the management of the entire cycle of life (humankind and nature) with the intention of expanding wealth. Kirk Hamilton (1999), also of the World Bank Environment Department, underlines the WB's permanent concern with poverty reduction around the world, particularly in Third World Countries, and its attempts to expand the concept of wealth and the measurement of wealth. Hamilton states that one possible definition of sustainable development is the management a nation's portfolio. Assets include building infrastructure, natural resources (minerals, energy, agricultural land, forest), human capital, and social capital. Expanding the notion of wealth implies the inclusion of these different types of wealth in nation-assets accounting. Then, sustainable development requires not only macro-economic policies but also management of human resource development (Hamilton, 1999). What matters for the WB definition of sustainable development is how natural capital is managed and whether the rents (profits) from the natural capital endowment are invested or consumed.

Sustainable development within this capital accumulation framework means augmenting natural and human capital. However, to maintain the physical and biotic system in which human life is sustainable "some minimal ecosystems must be sustained and this will involve major thought and innovation at the research, management and policy levels" (Hansell, Fenech, Isla and Thompson, 1999).

There are two different approaches to sustainable development: 1) sees a minimal ecosystem as being embedded within the economy; and 2) sees the economy as embedded in the ecological system. The first approach, advocated by Don Dewees, Professor of Economics at the University of Toronto, is an economic model with an ecological system attached. In favour of his point of view, he states, "it is my impression that we have macroeconomic models of the major developed countries that are detailed and robust. They capture important elements of our economies in significant detail and can describe the past with considerable accuracy while outlining possible future paths in significant detail" (Dewees, 1999). This point of view assumes that the well-being of the human agents is of primary importance for economics, in terms of maximizing the satisfaction of human wants. Dewees proposes

further exploration of economic-ecological linkages in the future to improve our understanding of these ecological systems on a scale, and with the appropriate level of detail, so that they could work with economic models to explore the implications of alternative future economic growth paths.

The second approach, advocated by Roger Hansell (Hansell, Fenech, Isla, and Thompson, 1999), analyzes the human utilization of natural resources in competition with other species in the biosphere. Hansell understands people as biological entities with a high position in the ecological food chain and the need for such organic molecules as food, and organisms, to break down bodily wastes. This approach expands the concept of economy to an equivalence with the ecological system and leads to a fundamental rethinking of values and valuation. It proposes that human activity should be limited so as to maintain an ecosystem compatible with human survival discounted to the indefinite future. Hansell maintains that economic expansion is to occur only in those ways which permit the biosphere to expand.

Supporters of both perspectives belong to the environmental management school that proposes avoidance of exhaustion of renewable resources through control and management. Both approaches believe that economic growth can be reconciled with environmental management.

Assumptions underpinning the corpus of this theory of production and growth are:

- a) controllability of a production process, which presumes complete control over the combination and reaction of the inputs;
- b) dominance over the environment, which assumes that “natural resources” can be freely appropriated up to the limits of their availability, and waste and excess outputs from economic production processes can be assimilated by the environment without affecting the economic production processes themselves;
- c) independence of production processes from each other, which assumes that the technique of each individual process can be expressed without explicit reference to the levels of activity of other economic processes within the system (O’Connor, 1994a);

d) substitution of factors, which assumes that energy can be replaced by wood, coal, petroleum, and natural gas; and that a knowledge-based economy has replaced a resource-based economy (we can have economic growth as economists measure it—in terms of real GDP/person—without any increase in consumption of materials or energy per person) (Wackernagel and Rees, 1995).

In criticizing the sustainable development framework as expressed in The Report of the United Nations' World Commission on the Environment and Development, "Our Common Future," also known as the Brundland Report, James O'Connor (1994), Martin O'Connor (1994), Juan Martinez Alier (1994), Jean-Paul Deléage (1994), Elmar Altvater (1994), in their influential book *Is Capitalism Sustainable? Political Economy and the Politics of Ecology*, argue that since the recognition of environmental deterioration the capitalist system is mutating its essential form, the culmination of which will be the complete capitalization of nature in which there no longer remains any domain external to capital. The image here is of the diverse elements of nature, including human nature, codified as capital. Nature is conceived in the image of capital. The logic of the system is thus the subsumption of all elements of nature-considered-as-capital to the finality of capital's expanded reproduction.

These authors suggest that in this new form of capitalism the management of nature and human nature is through controlled regimes of investment which implies new capital investments, and through the price system extending across space and time. In this scheme, the environment is acquiring an existence of its own driven by "laws" of its own and environmentalists are presuming to extend industrial control to the realms of nature and human nature according to a process of "land planning" that adheres to the conditions and imperatives of the world market. If that is true, sustainable management will respond to debt and environmental crises by extending its hegemony over the community resources for the purposes of commodity production.

B. Sustainable Development Debates in Costa Rica

1. Costa Rica's Conservation Strategy for Sustainable Development (*Estrategia de Conservación para el Desarrollo Sostenible*) (ECODES)

Until 1989, Costa Rica's ruling class and Bretton Wood institutions (IMF-WB) were applying macro-economic policies, Stabilization and Structural Adjustment Programs (SAPs), to expand the market economy in order to restore capital accumulation. In Costa Rica, these policies are expressed in the Productive Reconversion Program (PRP) that proposes to develop a competitive and dynamic agriculture, as well as dynamic entrepreneurs with gender sensitivity (CNP, n.d.).

The publication of the Brundland Report in 1987, inspired the Costa Rican government, USAID, and the environmental organizations operating in Costa Rica to organize a conference under the name of *Estrategia de Conservación para el Desarrollo Sostenible* (or, Conservation Strategy for Sustainable Development), known as ECODES. The ECODES conference was held in October 1988, during the Arias administration, by the Ministry of Natural Resources, Energy and Mines (MIRENEM). At the ECODES conference, the state administration looked at the prospects for sustainable development. Each government department analyzed its own sector and presented the results in conjunction with the environmental NGOs.

The purpose of the ECODES conference was to evaluate the past economic development strategies and to propose a new one. At the centre of the discussion was Costa Rica's financial obligations that demanded disproportionate amounts of resources, high levels of deforestation and pesticide use, contamination of rivers and oceans, and an exhausted agricultural frontier.

In evaluating ecological problems, deforestation was recognized as the heavy price imposed by development/modernization. MIRENEM (1990) has shown that from 1970 to 1980, Costa

Rica had one of the highest deforestation rates in the world; 68 percent of Costa Rica's land was deforested between 1940 and 1977, accounting for 50,000 hectares (ha.) of old-growth trees every year.

Deforestation was seen as caused by:

1) Commercial farming expanded the agricultural area to produce coffee, banana, sugar cane, and cattle ranching. For instance, in 1977, the World Bank loan of US\$55.6 million increased cattle ranching significantly (Ramirez and Maldonado, 1988).

2) Commercial logging, particularly lumber activity, accelerated deforestation in order to exploit a few selected species. In the process of extraction, a large number of trees and plants, without market price, were destroyed (Ramirez and Maldonado, 1988). The timber industry flourished, encouraged by commercial wood extraction for export and local consumption.

3) Land invasion and agricultural legislation promoted tree clearing as a mechanism to enable access to land property titles. These legislations are *Ley de Informaciones Posesorias No. 139* (Law of Private Possession), *Ley de Tierras y Colonizacion* (Law of Land and Colonization) No 2825, and the *Instituto de Desarrollo Agrario* (IDA) (Agrarian Development Institute) No 6735.

However, in evaluating Costa Rica's development strategy, no systemic analysis took place and the ruling class identified Costa Rica's development strategy as one subordinated to the prevailing economic dynamic. Costa Rica's development was defined as dependent on its capacity to sell products and to borrow external financial resources. The ECODES conference participants discerned the origins of the debt crisis and environmental crisis in past economic development strategy, yet, they also recognized that Costa Rica was not self-sufficient and depended on the exterior world. Therefore, the ECODES conference declared past strategy successful even though economic development had not delivered on its promise to industrialize Costa Rica.

Based on Costa Rica's needs from the exterior world, ECODES participants proposed to base sustainable development on past development strategy that would, however, avoid further deterioration of the natural resource base. They recognized that development as economic growth, capital accumulation, and technology was the cause of debt crisis, poverty, dispossession, deforestation, and water poisoning. Nevertheless, growth, capital accumulation, and technology were offered as a cure in the form of sustainable development. Sustainable development, like economic development, is supposed to bring wealth, progress, social achievements, environmental protection standards, and debt repayments.

2. Debates in Costa Rica

Professor Carlos Quesada (1999), director of ECODES and the director of the Sustainable Development Research Centre (*Centro de Investigaciones en Desarrollo Sostenible*), argues that at the beginning of the conference there was a real wish to break with the past. To the Brundland Report objectives, the ECODES conference added six new objectives specifically for Costa Rica: (1) generation of environmental quality of life to offer other options to satisfy basic, recreational, aesthetic, and spiritual needs; (2) pursuit of a balance between rural and urban growth through strategic plans that promote cultural and socio-economic development in the rural area, making it attractive, while improving the quality of life of marginal sectors in urban areas; (3) management of tourism and non-renewable resource extraction; (4) guidance of population policies, including external migration, considering Costa Rica's basic natural resources' limitations and financial capacity, in order to provide services that give a reasonable quality of life to all; (5) raise awareness that social justice, healthy economy, conservation ethics, and the rational use of the natural resources are essential to prevent a reduction of the quality of life that can put in danger peace and a tradition of civility in the country; and, (6) promote individual and collective responsibilities for nature, sustainability and solidarity, to assure more harmony between the Costa Ricans and the environment. According to professor Quesada (1990), ECODES privileged community and consensus; recognized the need for eliminating extreme poverty; and valued the role of women in conservation and sustainable development processes.

In 1997, Quesada elaborated on development and sustainability as possible concepts to be reunified, but in 1999, Quesada is disappointed with the direction ECODES has taken in which economics takes the lead and sustainable development is defined (by economists) as sustainable growth. He comments:

In ECODES we proposed sustainable and development as two dynamic concepts supported by each other. We rescued development as a positive evolution of human beings and its institutions. In our view, sustainable development was an integrative concept that involved economic, social, cultural and political development, however, with the neo-liberal paradigm economic development is emphasized. Within this paradigm nature conservation depends on economic achievements.” (Quesada, 1999)

According to Quesada, following the monetarist paradigm, government institutions understand sustainable development as production for the international market, privatization, and a reduction of the state functions, etc.

Eduardo Mora (1994), director and editor of *Ciencias Ambientales-Revista Semestral de la Escuela de Ciencias Ambientales* of the *Universidad Nacional de Costa Rica*, criticizes ECODES. He argues that sustainable development is the main concept around which the six specific objectives for Costa Rica must be organized. He argues that when economic development became sustainable development, economic development continues to determine the effectiveness of the right to a healthy environment and the right to environmental protection.

Mora (1994) criticizes the sustainable development framework because it organizes conservation around: a) specialized institutions to plan, organize, and order the relationship between society and nature; b) beautiful scenery, wildlife species, and select natural resources; and c) exploitation of the communities themselves. Eduardo Mora comments that environmental protection is a by-product of sustainable development, and economic development is at risk if natural resources or ecosystems collapse. Therefore, according to sustainable development, environmental protection is important only if it assures economic development.

To summarize, sustainable development emphasizes the role of nature as inputs in the process of raising real income and the quality of life. Community rights to a healthy environment and environmental protection depend on the dominant economic interests that, in accommodating their own interests, may achieve sustainable development. Thus, ECODES did not, in effect, question the system that organized the unequal utilization of natural resources between countries, within countries, and between women and men.

C. Organizing Sustainable Development— Disconnecting Communities from the Land

1. Expanding Nature and Human Nature as Capital

In non-industrial countries, expansion of natural and human capital through the market economy is offered as the highest organizing principle for dealing with social (debt) and natural (environment) crises. The ideology of sustainable development is contained within the limits of the market economy. Sustainable development sees the debt crisis and environmental crisis separate from economic development, and proposes a solution to those crises by expanding the market system.

Sustainable development as an economic concept refers to the exploitation of nature and human nature, and its execution depends on the state, economic enterprises (industry), environmental NGOs, aid, and international financial institutions (such as the IMF and WB).

Articulation of Costa Rica's economy to the international market is not new. After 50 years of development and aid, the state exists to serve and protect corporate interests. Costa Rica's new role in sustainable development was thus described by Christopher Vaughan (1989), head of the WWF in the United States. Vaughan argues that human population expansion threatens biodiversity, therefore, he proposes to redraw Costa Rica's ecosystem boundaries. His ecosystem boundaries match the market theory of production and growth. In describing Costa Rica's Strategy for Wildlife Conservation, he thus proposed: (1) to declare biodiversity as a national heritage on a parallel with education; (2) to preserve a major part of the country

under different conservation units (national parks, biological reserves, protected zones, forest reserves, wild life refuges, etc.) in order to organize biological corridors—under one management with specific administrative units; (3) to organize the socio-economic-ecological management of buffer zones in units and/or in zones altered by agriculture and urban development (more than 70 percent of the country). Biodiversity increase was proposed through planting natural windbreakers (*cercas vivas*), native fruit trees, the reintroduction of fauna and flora, etc.; (4) to encourage economic activities to promote biodiversity, such as exploitation of wood, medicinal plants, *venado colablanca* (white-tailed deer), as well as scientific and eco-tourism; (5) to create a National Institute of Biodiversity to collect and catalogue the biological species, to offer a museum for the scientists, to educate the people on biodiversity values, to shape a scientific and auxiliary corp; and to train professionals in different aspects of biodiversity.

According to Juan Diego Trejos and Mariano Ramirez (1989), ECODES participants, Sustainable development model was declared to

be based on export, particularly based on the use of knowledge (intelligently handled by scientific and technological variables and the sustainable use of four resources), balance and fairness. To create conditions for Sustainable Development we need to use our raw material and natural resources; reorient our efforts to the production of goods and services with added knowledge; and improve the efficiency of our financial system (Trejos and Ramirez, 1989).

Sustainable development promoters in Costa Rica paid no attention to its social, political and cultural context. Sustainable development served as a justification for state intervention in rural areas, but the state role was strengthened in order to create conditions for further assaults on the communities' land holdings.

According to Rodrigo Gamez (1993), INBio's director, the atmosphere surrounding ECODES permitted Arias, then President of Costa Rica (1986-1990), to sign a decree No. 19153-MIRENEM-C to establish the National Biodiversity Planning Commission. The Commission was composed of representatives from the Ministry of Science and Technology, the Ministry

of Natural Resources, Energy and Mines, the Ministry of Culture, the University of Costa Rica, the National University, the National Museum, the National Council for Science and Technology Research, the Organization for Tropical Studies, and the Neotropical Foundation.

The National Biodiversity Planning Commission established three means of discovering the intellectual and economic potential of biodiversity for development: (1) by saving representative samples; (2) by determining what biodiversity exists and where; and (3) by integrating its non-destructive uses (Gamez, 1991). To save representative samples of biodiversity *Sistema Nacional de Conservacion* (SINAC) was created by the Ministry of Natural Resources, Energy and Mines (MINAЕ). To assess what biodiversity exists and where, and to promote non-destructive uses of biodiversity in intellectual and economic development, the National Institute of Biodiversity (INBio) was created.

2. National System of Conservation Areas—*Sistema Nacional de Areas de Conservacion* (SINAC)

SINAC, the National System of Conservation Areas, was created in 1989 by the then Ministry of Natural Resources, Energy, and Mines. SINAC is the joint result of the directors of three Ministries: Forestry, National Parks, and Wildlife. Through SINAC, the Conservation Area model, was implemented to manage the country's wildlife and biodiversity. SINAC's goal is to act as policy-maker, planner, and the organization responsible for directing sustainable natural resources in Costa Rica. SINAC's mission is to preserve major parts of the country under one management, the current Ministry of Environment and Energy's (MINAЕ) regional offices. MINAЕ is in charge of the application of the Biodiversity Law (No. 7788, April 30, 1998) within its geographic land; it executes policies, strategies, and programs approved by SINAC. MINAЕ is also in charge of the application of Forestry Law (No. 7575, February 5, 1996), Environmental Law, National Park Law (No. 3763, October 19, 1966), and Wildlife Conservation Law (No. 7317, October, 21, 1992). These multiple laws pursue different goals, therefore, they are contradictory (Anonymous, personal conversation, 1999).

a. Conservation areas. SINAC has divided the country in eleven Conservation Areas. Wildlife, private lands, and human settlements are all considered part of Conservation Areas (CA) under MINAE supervision. CA is a designated area organized under the same development strategy, where private and public activities are interrelated in order to manage and conserve the natural resources in the area itself. Sustainable development, as explained above, is the goal of the Conservation Area. The following is a list of the eleven nationally-designated Conservation Areas in Costa Rica:

- 1) Guanacaste Conservation Area;
- 2) Tempisque Conservation Area;
- 3) Arenal Tilaran Conservation Area (Area of Case Study of the Thesis);
- 4) Arenal Huetar Norte Conservation Area;
- 5) Cordillera Volcanica Central Conservation Area;
- 6) Pacifico Central Conservation Area;
- 7) Tortuguero Conservation Area;
- 8) La Amistad Caribe Conservation Area;
- 9) La Amistad Pacifico Conservation Area;
- 10) Osa Conservation Area;
- 11) Isla del Coco Conservation Area.

b. Wildlife administered by SINAC. Wildlife administered by SINAC is categorized as: national parks, biological reserves, protected zones, forest reserves, wildlife refuges, Humedal and National Monuments.

Table 11

Wildlife Administration

Management Category	No. of Areas	Extension (ha)	% of National Territory
National Parks	23	522770.8	10.3
Forestal Reserve	12	286185	5.6
Protected Zones	30	184496	3.6
Wildlife Refuge	32	181693.16	3.5
Humedal*	14	50465	1
Biological Reserve	11	40242.3	0.9
National Monument	1	217.9	0.004
Total	123	1,266,077.16	24.8

*Humedal is a mangrove swamp, brook, marsh, coral reef, small lake.

Source: *Estado de la Nacion*, 1996: 120; Source SINAC

In 1996, the total number of wildlife areas administered was 123 corresponding to 24.8 percentage of the national territory. In enclosing 24.8 per cent of the national territory SINAC overlooked the fact that land was already extreme concentrated in a few select hands. In 1996, 83.4 percent of the properties under 100 ha. account for 1.12 percent of the country, while 0.71 percent of the properties of more than a 100 ha. account for 70.3 percent of the national territory (*El Estado de la Nacion*, 1996: 68).

c. Selling environmental services—CO² capture. Costa Rica has emerged as one of the pioneer countries selling the environmental properties of the rainforest. Teo Panayotou and Peter Ashton (1992) state that

Tropical forests provide important benefits in the form of environmental services that are often necessary for sustainable economic development. These services are functions performed naturally by forest ecosystems, such as regulation of droughts and floods, control of soil erosion and sedimentation of downstream water bodies, amelioration of climate, barriers against weather damage, and groundwater recharge. Benefits derived from the

rich biological diversity and gene pools found in tropical forests also count among the important environmental advantages. (110)

This is fundamental in the sustainable development model. In February 1995, Costa Rica approved three projects, Carfix, Ecoland, and Amisconde. In the second round of negotiations, under the Climate Change Convention, Costa Rica presented ten additional projects. Through international covenants, Costa Rica organized conservation, management of forests, and reforestation. It sells environmental services to Norway, Germany, Holland, Mexico, Canada, and Japan (*Estado de la Nacion*, 1996: 129).

The decree DAJ-D-039-98, signed during Figueres' administration (1994-1998), regulates the payments for environmental services. The decree recognized the jungle and forest plantations' owners, or *finca* owners, as the providers of environmental services. Certification for forest conservation is legislated by Forestry Law, Art. 22, under MINAE jurisdiction. Under Forestry Incentive Programs (FIP) (conservation-exploitation) MINAE receives, evaluates, and approves the terms of the program and promotes and compensates owners of forestry plantations. Reforestation is particularly promoted among large-scale agricultural entrepreneurs who also benefit from tax relief under Fiscal Forestry Incentives (FFI). FFI reforestation involves international capital which uses foreign forest species of high yield and great market acceptance, such as *melina* (a type of tree used by Stone Forestall, an American corporation), and *teca* (another type of tree used by Bosques Puerto Carrillo and Maderas de Costa Rica).

Reforestation is also promoted among the small and medium peasants, who raise the native forest species *pilon*, *mayo blanco*, *mayo colorado*, and *almendro*. Reforesters receive us\$48 per hectare. When the trees reach the age of 10 to 15 years, the *finca* owners, or the corporations selling the environmental services, can apply for authorization to fell the trees (and subsequently sell the wood products and byproducts).

Conservation Areas (CA) also receive payments for the environmental services they provide. Between 1979-1996, under FFI category, the total reforested area was 130,523.1 hectares. The total reforestation outside of FFI, during the same period, was 23,391 hectares. Adding both

kinds of reforestations the total reforested area, between 1979-1996, was 153,914.1 hectares (*Estado de la Nacion*, 1996: 127).

Between 1990-1994, according to the official annual rate of deforestation, the average annual rate of deforestation was reduced to 15,600 ha; in 1995 it was further reduced to 8,000 ha; and in 1996 to 7,000 ha (*Estado de la Nacion*, 1996). However, the official statistics are disputed by Rodriguez and Segura (qtd in *Estado de la Nacion*, 1996: 126) who argue that the estimation of the forested area is controversial, due to the use of different methodologies and definitions. They maintain that the real annual rate of deforestation is double what the state institutions claim. Rapid reforestation, designed for the market, is also a controversial issue. The discussion is whether a tree area should remain under wooded coverage for a longer period in order to be considered as a reforested area. The methods of reforestation are also controversial (*Estado de la Nacion*, 1996: 127).

D. Investments for Conservation—Debt-for-Nature Investments in Costa Rica

Wendy Hitz (1989), in her Masters thesis for the University of California, reported that the Conservation Foundation (CF) and the World Wildlife Fund (WWF-U.S.), which had been involved in conservation funding in Costa Rica for 25 years, proposed to the Costa Rican Minister of Natural Resources to take advantage of the debt-for-nature mechanism. Minister Umana submitted a letter announcing Costa Rican interest in participating, which was published on March 6, 1987 in the *Wall Street Journal*. However, it was during the ECODES conference (1988), that Costa Rica agreed to convert up to US\$5.4 million of its commercial bank debt into debt-for-nature funds. Under this mechanism, the Costa Rican government is not allowed to receive the debt titles directly—they must be donated through an NGO, which becomes the government's creditor. To receive debt-for-nature investments, Costa Rica's government created the Natural Parks Foundation, the Neotropical Foundation, and INBio. The Natural Parks Foundation and the Neotropical Foundation are indistinguishable in personnel and administration. The first focuses on national park creation and maintenance; the second includes resource management and sustainable development. These NGOs managed the international donations for environmental programs in Costa Rica with the

authorization of the government. Thus, they were central to most commercial debt swap transactions. These NGOs were organized as private enterprises with the cooperation of the government (Hitz, 1989). The third NGO, INBio, is examined in more detail in Chapter Four.

As a WWF-regional representative explained to me, debt-for-nature mechanisms are based on a negative assessment of the debtor country, meaning that the debt must be considered unpayable, so the debt titles can be sold at a fraction of their value (Cifuentes, 1997). This means that for each bond that cost one dollar, the bond might be sold for 0.10 cents or less in the stock markets.

Debt-for-nature investment was proposed by several international environmental groups as a way to obtain funds to finance Costa Rica's wildlife conservation areas mainly as a way of capturing some benefits of debt-reduction efforts. According to Conservation International (CI) (1991), the debt-for-nature initiative is considered an opportunity for NGOs to finance their conservation programs, including the expansion and management of many of Costa Rica's national parks. According to CI, a great number of NGOs were attracted to Costa Rica because of the exceptional conditions for sustainable development. Costa Rica's government conferred upon NGOs various privileges in regard to gene prospecting, selling CO₂ services, and eco-tourism.

The U.S. debt-for-nature swaps, under Enterprise for the Americas Initiative (EAI) includes provisions, in the contract, to protect NGOs and the U.S. government.

The swaps' environment fund is required to free from taxation or other charges by the host government. Interest payments are due as soon as the document is signed and are deposited in escrow until the conservation fund is created. Failure to establish the fund within 12 months the escrow fund to be immediately payable to the U.S. in dollars. If the agreement is terminated for any reason *by either party*, remaining interest obligation on the debt becomes payable to the U.S. in dollars. (Deacon and Murphy, 1997: 14)

Administration of natural resources is expensive. For instance, to create protected zones a huge amount of public as well as private money is needed. Costa Rica has no resources to

devote to natural resource administration. SINAC's financing of Conservation Areas comes from: selling wildlife stamps; permits and licences for hunting, fishing and forestry; donations from persons and public or private national and international organizations; fines and seizures; animal and plant export CIF value; organized FIDEICOMMISSA (financial administration in the hands of the National Banking System and the *Contraloria General de la Republica*). But none of these items are significant in financial terms, nor does SINAC have an administrative staff for fund-raising. Thus, Costa Rica is unable to finance the created Conservation Areas (CA). The government has negotiated terms of cooperation with different possible funding sources, which are formalized through a legal covenant or agreement. Finance of Conservation Areas depends on the good will of NGOs which, supported by donations and/or foreign aid, are developing their own projects. Foreign NGOs have their own understanding of nature and society. They usually get advice from university professors such as Robert Deacon and Paul Murphy (1997). Deacon is professor of economics and Murphy is senior analyst at the University of California. They see debt-for-nature investment as one way of getting "the price right." Deacon and Murphy argue that assigning property rights to free resources is one way to achieve "the right price." They propose that one role of debt-for-nature swaps should be the establishment of land ownership: a) because of the significance of tropical rain forests in ecological terms, and, in particular, its properties as carbon-fixing trees and soil for avoiding erosion (atmospheric carbon dioxide found that standing forests sequester carbon dioxide in their biomass); and b) because biochemistry is increasing the value of the genetic information found in tropical forests (especially as a potential area for medicinal discoveries and new food plants).

NGOs are taking advantage of the debt-for-nature mechanisms. Foreign NGOs interest takes predominance in the money starved Conservation Areas administered by MINAE. Furthermore, foreign NGOs when associated with local NGO's are not subject to control.

1. First Generation of Debt-for-Nature Investments

The first generation of debt investments involved commercial banks' debt bonds. The U.S. Department of Treasury enabled U.S. banks to participate in debt-for-nature swaps through tax breaks with the Revenue Ruling 87-124 on the loss they would take in selling debt at a discount. The Congress also took interest in debt-for-nature investments, and through the Tropical Forest Protection Act proposed that local NGOs receive money from the World Bank with which to buy debt. Commercial banks' debt-for-nature investments stopped when the initiative became unprofitable. Banks have created special reserves for their Latin American loans against which potential losses could be charged instead of against shareholders' equity. As a result of cushioning shareholders in this way, the incentive for the banks to sell these loans at low prices in the secondary market diminished (Hitz, 1989).

Debt-for-nature investments in Costa Rica were initiated during Arias's Presidency. At that time, Costa Rica's commercial bank debts were sold in the secondary market at 11 cents for each U.S. dollar. According to Terisa Turner and Craig Benjamin (1995), the price of the debt in the secondary market depends on the level of effectiveness of popular resistance movements engaged in various forms of struggle against debt repayment and against the terms of structural adjustment. "Anti-austerity struggles coincide with the devaluation of the subject countries' debt on the international market" (Turner and Benjamin 1995: 234).

During the first period of debt swaps, environmental NGOs main work was in biodiversity. The primary objective of the swaps for the environmental organizations is the identification of ecologically-sensitive areas and the negotiation of commitments to research and scientific data-collection in these areas. Thus, identifying which tropical acreage to protect with debt investment proceeds is decided by a combination of scientific, economic, and political considerations (Dawkins, 1992).

According to Kristin Dawkins (1992), of the Institute for Agriculture and Trade Policy Minneapolis, Minnesota, in 1988 Costa Rica and National Park Foundation of Costa Rica negotiated the first debt-for-nature swaps. A local currency fund worth us\$4,050,000 was set

aside for its management. In exchange, the Natural Parks Foundation of Costa Rica purchased us\$5,400,000 worth of Costa Rican debt at a price of us\$918,000, representing an 83 percent discount on the face value of the debt. A subsequent swap in 1988 was engaged in with Holland. In 1989, Costa Rica negotiated debt swaps with Sweden and the Nature Conservancy. In 1990, Costa Rica concluded another debt-for-nature swap with Sweden, as well as other swaps with the World Wildlife Fund and the Nature Conservancy. In 1991, Costa Rica negotiated debt-for-nature swaps with Rainforest Alliance (RA); Monteverde Conservation League (MCL); and the World Wildlife Fund– Canada (WWF-C); The Nature Conservancy (TNC). USAID participated in all the agreements where U.S.-based organizations have been involved, such as WWF, The Nature Conservancy, Conservation International, the National Wildlife Federation (Dawkins, 1992).

Table 12

Costa Rica's Debt-for-Nature Swaps (as of January 1991)

Date	Seller: Costa Rica (CR)	Purchaser/ Fundraiser	Cost U.S \$	Face Value of Debt \$	Conservation Bonds Generated \$
1/91	CR/CABEI	RA/MCL/TNC	360000	600000	540000
3/90	CR	Sweden/WWF/ TNC	1953474	10753631	9602904
4/89	CR	Sweden	3500000	24500000	17100000
1/89	CR	TNC	784000	5600000	1680000
7/88	CR	Holland	5000000	33000000	9900000
2/88	CR	NPF	918000	5400000	4050000
Total			12515474	79853631	42,872,904

Source: Dawkins Kristin- Debt-for Nature Swaps 1992, IBASE.

CABEI/Central American Bank for Economic Integration; RA/ Rainforest Alliance; MCL/Monteverde Conservation League; TNC/The Nature Conservancy; WWF/World Wildlife Fund; NPF/National Parks Foundation of Costa Rica.

Conservation organizations, such as Conservation International, participating in Costa Rica's debt-for-nature investments received different percentages on their transactions:

Participants in the Costa Rica debt exchange received local currency bonds equaling 75 percent of the principal amount of the debt being exchange. In addition, the administrator of the Natural Resources Conservation Fund is being paid an annual fee equaling 2 percent of the principal amount of the bonds. (CI, 1991: 15-16)

Until 1991, Costa Rica used US\$42,872,904 in local currency to pay foreign NGOs using debt-for-nature funds to manage Costa Rica's biodiversity. In exchange, Costa Rica obtained US\$79,853,631 off the face value of its foreign debt. The amount of investment obtained has little significance for Costa Rica's US\$4 billion dollar foreign debt; but it has significance for sustainable development initiatives and NGOs.

Since 1991, Costa Rican debt recovered its value in the secondary market because the IMF took control of Costa Rica's economy, payments of the debt became established and resistance against IMF-WB policies is practically non-existent. In addition, the numerous debt-for-nature projects increased the debt value and the price for debt titles also increased. In 1992, Costa Rican debt bonds sold in the secondary market increased in value from 0.11 cents to 0.68 and 0.70 cents for every dollar (Perez, 1998).

Costa Rica is creating public servants and bureaucratic offices to administer its biodiversity. Since 1998, Biodiversity Law established regulations on access to Costa Rican biodiversity. Art. 6 established biochemical and genetic wildlife or domestic biodiversity elements as public. The state provides authority for exploration, research, bioprospecting, use and benefits of the biodiversity elements, as well as for the uses of genetic and biochemical resources. A technical office, *Comision Nacional para la Gestion de la Biodiversidad* (CONAGEBIO) (the National Commission for the Management of Biodiversity) is currently in charge of approving, supervising, or rejecting applications.

2. Second Generation: Bilateral's Debt-for-Nature Investment. Canada/Costa Rica Debt-for-nature Swaps—The Agreement

The Canada–Costa Rica debt-for-nature investment is the implementation of the Latin America Official Development Assistance (ODA) Debt Conversion Initiative, signed on May 25, 1995. Since the 1980s, as part of the structural adjustment program, Canada's aid uses export credits to "support" the Third World's Balance of Payments (BOP) deficits. As a result of the IMF-WB programs, indebted governments' credit needs were reduced, and foreign aid has filled the gap by providing loans and grants. In the 1980s, as part of the increasing commercialization of aid, Canada began to combine development assistance with commercial export credits (Cox, 1992). Most of Canada's development assistance—in loans and grants—has been contingent on the purchase of Canadian goods and services used for infrastructural projects.

a. Canada-Costa Rica debt-for-nature swaps: the Agreement. (see Appendix 1 for a full copy of the Agreement). Costa Rica owed Canada CDN\$23,118,847.35, following three development loan agreements: one for the use of a line of credit for fertilizers signed January 27, 1983; a second agreement for the use of a line of credit for fertilizers and railway equipment signed September 27, 1983; and a third agreement for a line of credit for fertilizers signed March 6, 1985 (MOU).

Since Costa Rica's debt was priced very low in the secondary market, Canada took steps to obtain Parliamentary approval to reduce the portion of the debt owed to Canada by Costa Rica to 50 percent, that is, CDN\$11,355,809.50. A Costa Rica–Canada Trust Fund for Biodiversity—(FIDEICOMMISSA)—was created to receive Costa Rica's payment in local currency (*colones*) the equivalent of eleven million, three hundred and fifty-five thousand, eight hundred and nine Canadian dollars and fifty cents in twenty (20) quarterly payments of five hundred and sixty-seven thousand, seven hundred and ninety Canadian dollars and forty-eight cents (\$567,790.48). A schedule of payments was made: January 02, April 01, July 01, and October 01, with the first payment due on the date of signature of the arrangement, and the last payment on January 02, 2000 (MOU). The money in the

FIDEICOMMISSA earns interest and the rate is adjusted for inflation. It is directed by a bi-national technical committee of Canada and Costa Rica.

b. Participants in the agreement. Costa Rican participation was through the *Ministerio de Recursos Naturales, Energia y Minas* (MINAIE) (Ministry of Natural Resources, Energy and Mines), the Central Bank, and a Trust Fund. Canadian participation was negotiated through Canadian International Development Agency's (CIDA), based in the Canadian Embassy in San Jose.

The Ministry of Natural Resources represented the Costa Rican administration's environmental interests in the bilateral agreement. The Central Bank represented the government's financial interest in the debt swap process. The bank has to balance the desire to reduce the debt with the risk of negative economic impacts within the country. The creation of money could lead to higher inflation, but if the money supply is not increased, the central bank has to divert money from social service programs (school breakfasts, the education budget, etc.) to environmental concerns. On the one hand, the Central Bank wants to commit itself to paying as small a percentage of the face value of the debt as possible. On the other hand, NGOs are interested in obtaining the highest amount of money that the Central Bank is prepared to pay.

Donation of the funds is secret. Creditors do not want other debtors to know the amount they have surrendered in the negotiations. If other debtors learn the negotiation terms creditors cannot apply different conditions.

c. The significance of Canada/Costa Rica debt-for-nature swap.

i. For the debt. The Canada–Costa Rica debt-for-nature swaps accomplished a partial debt forgiveness and a restructuring of CDN\$11,355,809.50 debt obligation. The restructuring of the 50 percent of the debt implied changes in the payments from foreign currency to local currency, variation of the payment terms, and interest rates pegged to inflation. Carlos Issac Perez (1998), an official from the Inter-American Development Bank, argues that the gains for Costa Rica in the Canada–Costa Rica

debt-for-nature swaps are: first, a reduction in the bilateral debt and its debt service; second, the re-structured debt is assigned to investment projects in the country; and third, the investment is reoriented to environmental activities. With small bilateral swaps, like this one, there is no inflation pressure because the payments by installment are budgeted by the Ministry of Finance with the authorization of the Legislative Assembly. I cannot help but wonder how this statement can in fact be true, when Costa Ricans are living with inflation and devaluation daily.

ii. For the environment. The funds created by the Canada–Costa Rica debt-for-nature investments are oriented to environmental activities and issued under the Memorandum of Understanding (MOU) which contains two articles that specify the allocation of the funds to ACA-MINAE and to INBio.

Article No. 9 of the MOU specifies funds for the Arenal Conservation Area (ACA) as follows:

Half of the resources [\$ 5.6 million] will be dedicated to specific activities leading to the strengthening and consolidation of the National System of Conservation Areas (SINAC), and specifically to the Arenal Conservation Area (ACA), in the areas of human resource training, scientific research, and the management of areas for their sustainable use, in accordance with appropriate technical and scientific criteria. Resources for the second phase of the ongoing CANADA-COSTA RICA bilateral project, Arenal Conservation and Development Project, will be allocated from the SINAC portion of the funds (MOU,1995:8/19)

The funds assigned to SINAC's strengthening and consolidation have two goals: (1) to support Tilaran-ACA-MINAE in establishing a model of management; and, (2) to assist in the dissemination of the Arenal Conservation Area (ACA) model to other Costa Rican conservation areas.

The CDN\$5.6 million has been disbursed as follow: \$2.7 million for the Arenal Project in ACA (*Propuesta*, 1995); and, \$3 million for Investment in Strategic Projects using debt-for-nature funds (*Proyectos de Estrategia de Colocacion de los*

Fondos de Canje de Deuda). The fund of CDN\$3 million is used to finance projects, particularly micro-enterprises, in the whole country.

Article No. 10 of the MOU allocates funds to Instituto Nacional de Biodiversity as follows:

The remaining half of the resources will be dedicated to projects of the National Institute of Biodiversity (INBio), leading to the knowledge and use in a sustainable manner of the biodiversity in the Conservation Areas. Particular emphasis will be given to those aspects that contribute to the sustainable development of these sectors. Similar attention will be given to social programmes that transfer the knowledge of biodiversity in an easy and accessible way in the different sectors of society.... (MOU, 1995:8/19)

The money—CDN\$5.6 million—is being used by the National Institute of Biodiversity's (INBio) bioprospecting division. The funds for INBio are aimed at pricing the natural resources to contribute to the economic and intellectual value of biodiversity, and therefore, to its integration in the course of the country's development.

d. CIDA's involvement. How is CIDA linked to ACA? Since the 1980s, before the Conservation Areas were designated, CIDA supported the WWF-Canada and the *Asociacion Conservacionista Monteverde* (ACM-Costa Rica) environment and development projects in the Arenal zone (Tremblay and Malenfant, 1996: 9).

CIDA and WWF-C cooperation originated when WWF-C channelled CDN\$86,000 worth of donations directed at land purchase for the Monteverde Cloud Forest Reserve through the first debt-swap package (Hitz, 1989). The direct recipient of the funds was the ACM-Costa Rica, a local group organized in 1986, which specializes in fundraising for the Monteverde Cloud Forest Reserve (MCFR). MCFR was founded in 1972 by a group of North American Quakers who settled in the valley in the 1950s and is currently privately owned by the Tropical Science Centre (*Centro Cientifico Tropical*). The Reserve is over 10,000 ha. mostly tropical cloud forest and is located in ACA's territory.

When the Arenal Conservation Area (ACA) was created, within the National System of Conservation Areas (SINAC), and expanded to an area of 204,000 ha., the partners (WWF-C and the ACM-Costa Rica) submitted a proposal to CIDA to expand the sphere of intervention within the ACA to equal the area that had just been expanded to 204,000 (ha). And, with the help of CIDA, the proposal was accepted. In 1991, WWF-C was commissioned by CIDA to carry out the Arenal Project in partnership with the Costa Rican Ministry of Natural Resources, Energy and Mining (MIRENEM), which became the Ministry of Environment and Energy (MINAE) in 1996.

Since then, CIDA has been channelling money to SINAC to cover the operating expenses of the Arenal Conservation Area. From 1991 to 1998, "4.7 million (CAN) was invested by CIDA, and matched by over \$10 million in local funds (*colones*) generated by debt-conversion and other bilateral sources" (Arenal Conservation and Development Project, pamphlet). The Arenal Project concluded in September of 1999. Between 1996 to 1998, the estimated financial requirements for the project were CDN\$1,702,000 and swap funds CDN\$2,702,000. In total they equal CDN\$4,404,000 (See Appendix 3).

On the other hand, Canada and INBio from Costa Rica have been cooperating since 1991, when the Canadian Museum of Nature, together with INBio participated in the first study on the State of Biodiversity Knowledge. In 1992, the museum also participated in the first meeting on Biodiversity Studies of Countries and National Strategies. In the area of taxonomy, several Canadian researchers from the Centre for Land and Biological Resources of the University of Guelph, and the Canadian Museum of Nature were incorporated into INBio's Taxonomy Team as consultants (Sancho, n.d.).

In 1995, from the Canada–Costa Rica Debt-for-Nature Swaps Fund, INBio received CDN\$5.6 million. Modern technology is promoted as an ecologically sound technology, and as being a morally necessary solution to the environmental and development crisis. The funds are used to support the pricing of natural resources to contribute to the economic and intellectual value of biodiversity, and therefore to its integration in the course of the country's economic development (see Appendix 2) .

E. Conclusion

A new balance of political forces is taking shape in Costa Rica and the new relationship will not be a transitory phenomenon. Indebtedness pressures Costa Rican local powers to share commercial interests with transnational corporations over its natural richness, and particularly its potential for genetic material. At the same time, corporate environmentalism emerges as the new ideology of modernization and environmental protection. Environmentalists, like development economists, presume that the “trickle-down theory” is still valid. It can be translated as the more wealth generated by the rich industrial nations using non-industrial nations’ resources, the greater the largesse available to these nations. This chapter has shown that sustainable development in Costa Rica is managed mainly with debt-for-nature swaps investments. During the first generation of debt-for-nature investment, NGOs’ primary objective were to identify ecologically sensitive areas and negotiate commitments to research and collect genetic material in these areas. During the second generation of debt-for-nature investments, NGOs are using economic science to establish what commodities and communities ought to have value.

By 1999, as conservation areas have become the economic-ecological units, two clear tendencies could be seen in Costa Rica: a) external borders, between countries, are disappearing with the International Financial Institutions (IMF-WB-WTO) policies; and b) internal boundaries between those who share volcanos, *humedales*, turtle-spawning havens, and rivers are built with debt-for-nature investments—through national parks, biological reserves, protected zones, forest reserves, and wildlife refuges.

Part II: Canada–Costa Rica Case Study
The National Institute of Biodiversity (INBio) (Debtor NGO)
and The Arenal Conservation and Development Project–
World Wildlife Fund Canada (Creditor NGO)

No government is allowed to receive debt titles directly. Debt-for-nature investment funds are donated to NGOs, which become the government creditors. Costa Rica created the National Institute for Biodiversity (INBio) to receive debt-for nature investments. CIDA contracted the World Wildlife Fund–Canada (WWF–C) as the Canadian administrator for debt-for-nature investments in the Arenal Conservation Area and for *Proyectos de Estrategia de Colocacion de los Fondos de Canje de Deuda* (Investment in Strategic Projects) using debt-for-nature funds. The Arenal Conservation Area (ACA) is one of eleven nationally-designated conservation areas into which Costa Rica has been divided. The Abanico Medicinal Plant and Organic Agriculture Project is WWF-C's model micro-enterprise in the ACA. There is Dutch debt-for-nature investment in the Abanico Project, carried out through the NGO, ANDAR. Part II of this thesis examines these debt-for-nature funded activities in some detail.

The data presented were gathered during two periods of extended field work during the summers of 1998 and 1999, including participant observation and in-depth interviews with all nine members of *Grupo Ecologico de Mujeres del Abanico* (GEMA) (Abanico Women's Ecological Group), the local women's group involved in the Abanico Medicinal Plants and Organic Agriculture Project. This research included interviews with university researchers, officials of NGOs (INBio, WWF, ANDAR) of government (MINAE), and Fortuna Priority Working Unit (one of three administrative units of the Arenal Project), community members of the city of the Fortuna and the small towns of Z-Trece and Abanico, and workers/inhabitants of *El Albergue La Catarata*, an eco-tourist enterprise. Data were also collected from documents in the library of ACA-Tilaran, the library of the Centre for Tropical Agronomy Research and Education in Turrialba, and from the WWF's regional office library also in Turrialba. More detailed information on data sources will be found at the beginning of each chapter.

Chapter Four, “National Institute of Biodiversity (INBio),” critically examines the origins, structure, philosophy and activities of the National Institute of Biodiversity (INBio) with special attention to their problematic impact on local populations.

Chapter Five, “The Arenal Project: Phase I 1991-1995,” critically examines the geography, organizational structure, and development and conservation philosophies of the Arenal Conservation and Development Project (the Arenal Project).

Chapter Six, “The Arenal Project, Phase II 1996-2000 – Fortuna Priority Working Unit,” provides geographical, historical, environmental, social, economic, and “development” information about the Fortuna Priority Working Unit (PWU), one of three divisions of the ACA established by the WWF-C to bring together NGOs, the local community, and local government officials in sustainable development activity. This is the context of the Abanico Project.

Chapter Seven, “The Abanico Medicinal Plant and Organic Agriculture Project,” presents historical, social, economic and environmental information about Abanico and about medicinal plants and organic agriculture. It describes the origins and organizational structure of the Abanico Project, including the Women in Development (WID) and Gender and Development (GAD) approaches of the WWF-C and ANDAR, the two NGO’s responsible respectively for the community and economic aspects of the Project.

Chapter Eight, “Women's Work and Resources in the Abanico Project,” presents the results of an intensive participant observation study of the impact of the Abanico Project on the members of GEMA, the participant group. This includes data on the socio-economic background of the women and the impact of the Project on their paid and unpaid work, their income, and their community status and power.

Chapter Four

National Institute of Biodiversity (INBio)—Commodification of Nature

The sources of the information presented in this Chapter include numerous INBio documents, provided by Mr Alfio Piva Mesen, the Deputy Director of National Institute of Biodiversity (INBio), including “*Biodiversidad y Desarrollo Socio-Economico*,” the proposal presented to Canada–Costa Rica’s FIDEICOMMISSA (the bilateral organization which received the debt-for-nature funds from the Costa Rican government) to improve the biotechnology laboratories at INBio. I was able to obtain this information through the kind intervention of Don Felipe Matos, Natural Resource Program Director at the University for Peace in Costa Rica who made all the necessary introductions. I also conducted interviews with four INBio officials, two of whom I cite directly, and all of whom gave me permission to use their names.

At the invitation of Mr. Piva Mesen, I visited INBio’s headquarters located in Santo Domingo de Heredia. On my first visit, I toured the microbiology laboratory area, extraction–fragmenting laboratory, the preparation and extraction of samples laboratory, and the administrative offices. Three main activities take place in the laboratories: bacteriology, micrology, and cellular cultivation. On my next visit, the following week I was guided through the Inventory Division and the Information Dissemination Division.

The key figure in Costa Rican debt-conversion schemes is Dr. Rodrigo Gamez, a Special Adviser to the President in the Ministry of Natural Resources. He is the founder and the director of INBio. Although I did not interview Dr. Gamez myself, a long interview conducted with him in 1988 is reported in Wendy Hitz (1989) doctoral dissertation for the University of California. In this interview, Dr. Gamez expressed the limitations of debt-for-nature swaps, arguing that Costa Rican governments had limited influence in the decision on what projects were financed. He commented that the government did, and still does not, have the resources to develop projects which would better represent the country’s priorities. Dependence, he said, was the situation in which the country lives and to break this dependence it is necessary to emphasize the integration of economic development and

conservation plans. In this regard, he emphasized the importance for the industrialized world that Third World countries conserve their resources. But, he said, in order to conserve and protect natural resources, equal Terms of Trade are required.

According to his perception of dependence, the lack of development/industrialization a result of the industrial world's treatment of the non-industrial world's natural resources as a freely available resource of no value, as well as the imposition of unequal and deteriorating Terms of Trade, in particular during the last 40 years. Gamez expressed the belief that development/industrialization and the debt problem are possible to confront if the fundamental economic relationship between the industrial and the non-industrial world is altered. INBio was founded to alter that relationship and to put the right price to the natural resource.

INBio contends that genetic resources are part of Costa Rica's national heritage and the country should be compensated for the use of those resources even though industrial countries are determined to retain free access to them. INBio would also like to achieve the technological advances by which development/industrialization is measured. INBio's faith in science and technology to solve social and political problems, parallels the faith the industrial world assigned to science to solve environmental problems. Both industrial and non-industrial leaders of the world's nations believe in technical-fix solutions. Technology has, thus, become the cure for the social, political, economic, and environmental problems Costa Rica is currently facing.

INBio was founded to receive debt-for-nature swaps. It was organized as a private, not public, organization with the cooperation of the Costa Rican government, and the world scientific centres and industry. Through donations and debt-for-nature swaps, INBio has gained greater leverage for influencing government environmental policy. The Canada-Costa Rica debt-for-nature investment agreement is one swap that provides support to INBio's consolidation work. To obtain a share of the debt-for-nature investment, INBio presented a project to the Committee for Biodiversity Costa Rica-Canada (FIDEICOMMISSA) (See Appendix 2). The

amount assigned to the project in the agreement was c/811,940,379.30 (CDN\$5,677,904.75). This represents half of the amount negotiated in the agreement.

A. Commodification of Nature

1. Origins of INBio

The ECODES conference proposed to base sustainable development on “the production of goods and services with added knowledge” through the management of science and technology. As a result, in 1988, the National Biodiversity Planning Commission (hereafter referred to as the Commission) recommended that INBio be created outside of the state as a non-profit, non-governmental organization for the public good (Mateo, 1996). INBio was legally registered on October 24, 1989 and is governed by a 21-member Assembly of Founders and a six-member Board of Directors (INBio, 1996). INBio’s activities are conducted under the assumption that society will conserve a major portion of its wild biodiversity only if protected areas can generate ample intellectual, spiritual, and economic benefits (Mateo, 1996).

Jeremy Rifkin (1993) and Eduardo Gudynas (1997), a researcher at *Centro Latino Americano de Ecología Social* (CLAES) (Latin American Centre for Social Ecology) in Montevideo, advance some ideas with respect to INBio’s origins. According to Rifkin, INBio was born under the pressure of multinational corporations and industrial countries which felt that since we live in a knowledge-based era, they have no obligation to compensate countries from which genetical material is taken unless the genes are manipulated and recombined by advanced gene-splicing techniques. Ergo, biodiversity can only be “protected” if it uses technology as the basis of conservation. Furthermore, according to Gudynas, the perception that foreign enterprises will appropriate Third World biodiversity, *no matter what*, creates instruments like INBio to receive compensation for the genetic material.

2. Instituto Nacional de Biodiversity (INBio) (National Institute of Biodiversity)

According to INBio's General Director, Mr Gamez, INBio is a NGO created to inventory what biodiversity exists and where, and to promote non-destructive uses of biodiversity in intellectual and economic development (1991).

To organize the extraction, exploitation, and control of biodiversity, INBio designed four divisions:

a) The goal of the National Biodiversity Inventory Division is to generate properly identified reference collections and field guides, provide electronic identification services that add knowledge to the organism's natural history, and document their distribution throughout the national territory;

b) The Biodiversity Information Dissemination Division aims to disseminate information on diverse processes taking place in INBio with respect to the commercial possibilities of conserved wild lands, as well as training conservation area staff, producing hard copy field guides and other types of biodiversity literature, holding national and international workshops, etc. (Mateo, 1996);

c) The Biodiversity Information Management Division develops software through the Biodiversity Information Management System (BIMS) that manages, digests, and organizes data into different formats. BIMS has three modules: Inventory Module, Taxonomy Module, and Geographic Information System (aerial photogrammetric maps). BIMS supports the inventory division by processing data arriving from the field (information that includes place of collection, method of collection and preservation, time, name of collector, and a brief description of the habitat) as well as incorporating this information, and an identification of each specimen, in the Oracle database that can be accessed on the Worldwide Web (www). BIMS also provides taxonomic identification, using a nomenclatural system that operates the species as the information unit.

d) The Biodiversity Prospecting Division searches for new chemicals and genes. It focuses on the search for chemicals produced by plants, insects and micro-organisms that may be of use to pharmaceutical, medical, and agricultural industries.

3. INBio's Use of Debt-for-Nature Investments

INBio used the Canada–Costa Rica's debt-for-nature investment in three areas: a) Social Management; b) Bioprospecting Division; and c) Heritage Maple Leaf Foundation (See appendix 2).

a) Social Management supports the development of the intellectual and spiritual use of biodiversity, conducted by the Information Dissemination Division. The investment component in social management was developed throughout 1996, 1997, and 1998.

b) The Bioprospecting Division supports the development of industrial uses of biodiversity. The investment component in the Bioprospecting Division was developed throughout 1996, 1997, and 1998.

INBio's bioprospection begins with the biological samples brought by parataxonomists. "A parataxonomist is not merely a collector, but is also the initial cataloguer of specimens and a direct link to the communities that live in and around Costa Rican Wildland" (Piva, 1998).

The first added value obtained from the product occurs when the biological material (plants, insects) are prepared for extraction through two processes: exhaustive dryness (through lyophilization) and grinding. The samples are subject to the extraction process, generating the first product which is called the extract (complex molecules). The drying process takes two or three days if the samples are from the humid tropics. This stage was consolidated during the first five years (1991-1995) of the division's creation.

In the second stage, the extracts generated are subjected to a biological activity test, called bio-assays. During this test, the extracts are examined to find, for instance, therapeutic agents

that act as immunomodulators, antibiotics, anti-inflammators, anti-virals, etc. This second product, called the active extract, adds more value to the product. Until 1997, the tests were conducted by foreign companies because of INBio's lack of appropriate technology. By 1998, this second-stage capacity was built by INBio with the resources of obtained through the Costa Rica–Canada debt-for-nature swaps.

The activities developed by the Canada–Costa Rica debt-for-nature funds in bioprospection were intended:

- to increase the production of extracts and added value, by the consolidation of the microbiology lab and the extraction and fragmentation labs; and
- to modernize the extraction process to generate *un formato de extractos en placas de microtitulo* (translate pls). Its modernization can be incorporated in high throughput screening (HTPS).

The third stage takes place when the active extract is introduced in a feedback complex which is called *fraccionamiento guiado por bioensayo* (guided division by bio-assays), where the extract is separated from components not responsible for the activity. The active fragment is the third product, with a much higher and more complementary (complimentary) added value. The process is repeated many times until the active component is completely isolated. This active component is identified and promises to be interesting only if it contains structural or active novelties. This process is very expensive but it gives the product additional value. This stage is still in the process of being refined at INBio.

At this stage, there are many similar by-products derived from the original, natural product. They are mimetic products derived from the biological activity but not equal to the natural, original product. Pharmaceutical companies are interested in mimetic products that can be patented. They are the products that generate all the possible economic benefits. It is in this division that INBio transforms robbery (of the genetic materia) into a right with the claim to ownership based on the claim of making improvements.

c) The investment in the Heritage Maple Leaf Foundation (created in honour of the Canadian Maple Leaf) is intended to increase Canada–INBio cooperation activities. The funds invested from 1998 to 2000, c./283.96 million (CDN\$2 million), are made up of FIDEICOMMISSA money from the Canada-Costa Rica Debt-for-Nature Swap. The FIDEICOMMISSA is administered by the president and treasurer of INBio, and Mr. Claude Tremblay (WWF-C), named as a member by the Canadian Embassy in San Jose.

The debt-for-nature swap agreement proposed to increase Canadian participation in the Taxonomy Team, increasing the number by two in 1996 and by three in 1997 and beyond, paying their travel and living costs for up to 15 days annually. These costs are included in the expenses of Biodiversity Information (Social Management and Bioprospection) area. Furthermore, two communication *encuentros* (meetings) were planned: one *encuentro* with the Canadian business sector, the other with academic groups. For the *encuentro* with the business sector, INBio proposed a group of six Canadian people (two from the pharmaceutical area, two from agro-industry, and two from the bio-technology sector). The goal of the *encuentros* was to reach commercial agreements. The cost of the business sector *encuentro* alone was two million *colones* (\$US 8,230).

The *encuentro* with academia was proposed so that INBio could meet Canadian experts in the areas of chemical prospecting, taxonomy, microbiology, and biotechnology. The cost of the *encuentro* with the academic sector was budgeted as c./5 million (\$US 20,576). In addition, INBio proposed a colloquium between the leaders of Canadian Indigenous Peoples and Costa Rican Indigenous Peoples to exchange experiences as well as to analyze the results of INBio's work.

Of these divisions, the only process that adds value is the atomistic work of bioprospecting division where nature's power and potential are appropriated. It is only when nature is modified in the laboratory that nature's productivity counts.

Experts and specialists are thus projected as the only legitimate seekers after and producers of knowledge.... The transformation of creativity into passivity

relocates productivity in disruptive, coercive and exploitative acts, and defines it as a source of value; and simultaneously defines all other values as non-value. (Mies and Shiva 1993: 24, 26)

4. INBio's Research Agreements

INBio was founded with the notion that its work would be supported by donations. Nicolas Mateo (1996), in his book *Wild Biodiversity: The Last Frontier? The Case of Costa Rica* describes the following agreements INBio made with industry:

1) Chemical prospecting. The project's aim is to obtain potentially useful substances from tropical insects and upgrade human resource capabilities in the field of ecology, taxonomy, and ecochemistry. It is carried out in the Guanacaste Conservation Area financed by three U.S. agencies: the National Institute of Health (NIH), the U.S. Agency for International Development (USAID), and the National Science Foundation (NSF), in collaboration with the University of Costa Rica, Cornell University, and the Bristol Myers Squibb Company.

2) INBio-Merck Agreement. The project searches for new pharmaceutical and agricultural products from plants, insects and environmental samples. Possible results on the biological activity and characterization of chemical compounds have been obtained. Merck has exclusive access to biological samples for two years. The agreement was initiated in 1992, renewed in 1994, and again in 1996. INBio has a similar agreement with Bristol Myers Squibb, Recombinant Biocatalysts, Analyticom AG, and others (Gudynas, 1998)

3) Antimicrobial and antiviral activity from natural compounds. An agreement was signed with the phyto-pharmaceutical company INDENA from Milan, Italy. It conducted considerable value-added research including new batteries of micro-organisms and bio-assays for the first time in Costa Rica. INBio is searching for new bacterial and viral antibiotics made from natural substances by examining and testing folkloric knowledge of the healing properties of local plants.

4) New fragrances and essences for cosmetic and household purposes (cleaning) from airspace around biodiversity resources. An agreement with Givaudan-Roure Fragrances of

New Jersey aims to identify and collect interesting odours from airspace near fragrant forest organisms. It was carried out in the Guanacaste Conservation Area.

5) DMDP, a nematicide obtained from *Lonchocharpus* SP., is currently being studied for domestication, extraction, and field evaluation under an agreement between British Technology Group and Ecos La Pacifica, in collaboration with the Costa Rican Banana Corporation, Kew Botanical Gardens, and the Guanacaste Conservation Area. This is a cost-effective research and development initiative given the high environmental and financial costs associated with the application of synthetic nematicides to tropical crops.

6) Potential industrial use of extremophilic organisms. In collaboration with Recombinant Biocatalysts Co. Of La Jolla, California, INBio is studying micro-organisms that thrive in extreme pH and/or temperatures in the search to clone DNA sequences that express enzymes for use in bioremediation and industrial processes. This collaborative research is carried out in conjunction with the University of Costa Rica's Centre for Cell and Molecular Biology (Mateo, 1996). In 1996, volcanic water and soil were collected to separate the micro-organisms from the Rincon de la Vieja and Arenal volcanoes. The research is done in the laboratory of the enterprise.

7) Potential insecticides. In collaboration with the Biology Department of the Massachusetts University Institute of Technology (MIT) and financed by the USNIH, INBio prepares extracts of insects, plants, and molluscs and sends them to MIT for evaluation and identification of secondary metabolites with insecticide activity.

8) In addition to these agreements, INBio has worked with the Strathclyde Institute for Drug Research (Scotland), Colorado State University, Cornell University, Michigan State University, and the Technical University of Berlin (Germany). INBio's new projects include one that aims to "Consolidate INBio's Management Capacity, the Production of New Goods Derived from Biodiversity and the Generation of New Knowledge of Biological Diversity in Five Conservation Areas" (ACA is one of the five conservation areas involved) and another on the "Development of Biodiversity and Sustainable Use in Costa Rica" presented to the

Dutch government. A project presented to the Norwegian Agency for Development (NORAD) concerns the "Contribution to Knowledge for the Sustainable Use of Biodiversity in Costa Rica." This project promotes the design of a new strategy for institutional sustainability, the development of non-destructive uses of biodiversity, and the institutional capacity to identify, generate, and trade new products. A proposal entitled, "Costa Rican Biodiversity Resource Development," presented to the World Bank and the Global Environmental Facility, emphasizes the conceptual framework for the elaboration of an inventory of certain taxonomic groups and the subsequent generation of commercial and non-commercial products.

INBio receives donations because INBio's science is a response to the needs of a particular form of economic and political organization of capitalist society. Both the donors and INBio are interested in the commercial exploitation of biodiversity, especially the biodiversity of the rich rain forest. Vaughan (1989), WWF-US, notes that Costa Rica has more than 8,000 species of vascular plants while England has only 1,443. Costa Rica also has around 2,000 orchids, 1,239 species of butterflies, and 205 mammals while Europe only has 134; Costa Rica also has 850 different kinds of birds while Europe has 398. Daniel Jensen (1989), a American university professor and the director of the Guanacaste National Park, has collected 2,500 species of nocturnal butterflies.

Manipulation of the ecosystems to maximize the single component of exploiting the genes is thus initiated in INBio's laboratory and then further developed through experiments in the installations of INBio's partners.

Nora Martin, from INBio Bioprospecting Department, said

Research agreements between INBio and industry is part of the transfer of resources from the international arena to Costa Rica. Each agreement transfer part of the knowledge; improves the personal scientific capacity, the equipment. If something arrives to the market we will obtain royalties because we are shareholders. For instance, INBio and Merck are shareholders in the research of new pharmaceutical products. If Merck patent mimetic products, INBio will receive equal share and Costa Rica will receive royalties. If INBio

and Merck are shareholders there is no trespass upon ownership of biodiversity (Martin, Summer 1998).

5. INBio's Conservation Scheme

INBio's conservation schemes see nature as a resource to be manipulated and appropriated. INBio organizes conservation in the context of economic monetarist policies where the market plays the central role and value is measured only in terms of profitability. INBio's conservation schemes transform nature into a reservoir of material resources to be exploited for profit. Treating nature as a production factor transforms it new type of raw material, or input, to be managed according to the markets. Treating biodiversity as merchandise means that the stage is the market and biodiversity is a by-product that assures commercial expansion.

INBio, thus, organized its conservation scheme following the market criteria: *first*, nature has price; thus, collect and catalogue the biological species; *second*, maximize the benefits, growth, and capital accumulation and minimize the impact of the transactions in nature; establish research agreements on the commercial possibilities of conserved wild lands; *third*, the market is considered the best organizer of social relations; thus, privatize biological resources and collective knowledge by defining previous social labour as nature to avoid conferring rights to the owners; and *fourth*, the market is considered the best organizer of environmental relations; therefore, search for new chemicals produced by plants, insects, and microorganisms.

INBio's conservation schemes are based on modern technology and promoted as ecologically sound, morally necessary solutions to the growing environmental and development crisis—to debt, hunger, poverty, and pollution. However, since debt, hunger, poverty, and environmental degradation are not the result of the lack of technology, INBio's schemes are not a solution to these problems as they ignore the more complex political, economic, and social causes at the root of these very problems.

B. Problematic Sustainable Development

INBio's sustainable development program presents the past relationship established between community and nature as perverse and in need of management and control. Presuming to confront debt, hunger, poverty, and environmental degradation, as if they were products of lack of technology, INBio has transformed the natural and social order in Costa Rica.

INBio's sustainable development, based on feminist perspective, is problematic on the following accounts: (1) its reductionist science fragments relationships and constructs a world of fragments; (2) it appropriates nature's products; (3) it devalues local community knowledge in order to appropriate it; (4) it receives big social investments, such as debt-for-nature, for private gains; (5) it gains social authority and devalues community as ecological authority; and (6) it promotes re-colonization.

1. Reductionist Science Fragments Relationships and Constructs a Fragmented World

INBio's science is based on the destruction and subordination of nature as a living organism. Nature is considered dead, raw material. INBio's inventory division is a cemetery full of tons of inert plants, leaves, dead butterflies, pieces of wood, and micro-organisms, lying all over the floor, the walls, the shelves and rooms, waiting to be fully catalogued. For most of these samples, no technology yet exists that can bio-test all the "potential properties" of the thousands of substances involved in the dead species.

INBio's National Biodiversity Inventory initiated its activities focusing on a limited number of taxa — plants and insects (1989), mollusks (1993) and fungi (1996). However, after five years, the output of this exercise was overwhelming and close to two million insect specimens are still waiting to be fully catalogued (Sancho, n.d.).

In 1996, 428,000 entomological specimens were collected increasing the reference collection to over 2.9 million insects at the close of the year. Of these, 2.4 million have been labelled,

and 710,000 identified at the species level. Bryophyte specimens numbering more than 1,000 were added to the collection in 1995, while the taxonomy of plant species, estimated at 12,000 is almost completed, with 39 new species of plants described of which 26 were new records for Costa Rica in 1996. The malacology collection now includes 90,000 specimens of which 25 percent have been classified to the family level, 47 percent to genera, and 28 percent to species level. At least eight are new species for the world and approximately 20 are new records for the country. Finally, a mycology department was opened in 1995 to inventory macro-fungi as the basis for exploring potentially useful bioactive substances. Currently, the collection numbers 1330, of which 11 percent have been identified to the family level, 48 percent to genus, and 37 percent to species level (Mateo, 1996).

According to Mies and Shiva (1993) reductionist science is at the root of the growing ecological crisis, because it entails a transformation of nature that destroys its organized processes, rhythms, and regenerative capacities. Reductionism, according to Mies and Shiva (1993), permits knowledge of parts of a system to stand for knowledge of the whole. Fragmentation creates the possibilities of colonizing and controlling what is a free, self-generative, and communal source; and reduces complex ecosystems to a single component, and a single component to a single function. The single function becomes the single component for exploitation. Mies and Shiva are referring to this kind of scientific method when they comment that scientists cannot understand nature and natural phenomena if they do not leave them intact within their own environment, thus, they say,

[the scientific method] is based in violence and power. Without violently disrupting the organic whole called Mother nature, without separating the research objects by force from their symbiotic context and isolating them in the laboratory, without dissecting them—analyzing them—into ever smaller bits and pieces in order to discover the secret of matter (atomistic research) or the secret of life (biotechnology), the new scientists cannot gain knowledge. There is no abstract gain of knowledge which justifies the drastic destruction of vital links between self-sustaining living systems on earth, of the inherent worth of plants, animals, and humans in their living environment. The marriage between knowledge and force must be dissolved. (Mies and Shiva, 1993: 50)

2. Appropriation of Nature—Privatization of Biodiversity

Biodiversity is a relational category, ecologically and culturally embedded. In 1998, as part of the agreement of debt-for-nature investment, INBio organized an *encuentro* between the Indigenous People of Canada and Costa Rica. Canadians told the Costa Rican Indigenous People that they could help them to defend themselves and benefit from biodiversity negotiations. The Talamanca people replied, “We do not want to know about making business with biodiversity, we are happy living like we are. What we want is just to keep and use the land, with the knowledge our ancestor`s handed down to us” (Garcia, interview, Summer, 1998).

Indigenous People see biodiversity as a good that cannot be expressed in terms of market price or value and, therefore, it cannot to be negotiated. Biodiversity is their pharmacy, their supermarket, and particularly, the source of their myths and traditions. Selling their biodiversity is comparable to selling their culture and for them it is priceless.

The commodification of nature to expand natural capital plunders local communities. In this process, one part of society has a monopoly over nature and the rest of society is excluded. However, that part of society that is excluded is forced to bear the ecological and economic cost.

Local communities in Costa Rica have, for many years, seen scientists and much evidence of their activities; they have witnessed the collection of, and the intervention in nature and in their own lives while they themselves, and their needs, have been ignored. They were not contacted, nor was there an attempt to engage in honest and frank communication. Rural community members acknowledge the existence of commercial activity, but, they say, it is being negotiated between few actors (INBio, MINAE, NGOs. and the business traders), and the information is managed in a restricted way.

When biodiversity is treated as a commodity the very sacrificed people always will be the rural community. INBio’s research program fails

communities because it is only preoccupied in how many species we have and what to do with them. The knowledge acquired was not multiplied because the goal is to sell biodiversity to the international market. The knowledge transfer failed the communities who have taken care of it for centuries. (Butterfly, Summer 1998).⁹

The transformation of nature into a commodity has robbed communities of their means of livelihood by a new technology which becomes an instrument of poverty and underdevelopment. The local communities are seen as providers of raw material. Their work as the keepers of nature for centuries has no value, while scientific labour is perceived to add value. Development by INBio means underdevelopment for the local communities. Living organisms became raw material and living knowledge linked to sensuous knowledge and experience of these organisms are eliminated.

3. Appropriation of Community Knowledge Through Parataxonomists

In order to appropriate community knowledge, INBio devalues local knowledge. Local knowledge is called nature, and nature has no value. As research centres are organized in the so-called nucleus centres (designed by the Land Plan), these areas are prohibited to rural communities unless they are part of the taxonomist program. In this way, INBio denies any contribution by those whose products are appropriated. INBio never consulted with the communities, never asked them what they wanted the researchers to investigate, nor why the research is needed, and how they wish to use the results.

INBio appropriates local knowledge about some of the attributes of the native plants and animals to initiate most of the prospecting work by hiring the daughters and sons in the rural communities as parataxonomists who initiate the collection. Butterfly, a parataxonomist himself, explains what it means:

⁹. "Butterfly" is a pseudonym for an official from the Ministry of Environment and Energy (MINAE) who wished to remain anonymous.

A parataxonomist is a person (woman or man) with a deep love for nature. Nature is part of her/his life and she or he feels emotion for it. She/he knows that her/his work represents not just a salary, but important work for the country in its intellectual growth. This person must necessarily be from the rural area because there are many adverse factors, such as walking at night under heavy downpours to visit the hatch, with the added risk of falling branches and snake bites. As a rural person, the parataxonomist brings intimate knowledge of the eco-system. In the work process, she/he acquires information of the protected area and becomes an information generator. (Butterfly, Summer 1998)

In INBio's conservation schemes, a parataxonomist's work does not add value. Their work is considered an extension of nature's work. Parataxonomists are considered non-specialists because they have no formal degree, although INBio uses the parataxonomist's knowledge to initiate every process. At INBio, parataxonomists only receive a six-month intensive training course during which they acquire the philosophy and technology necessary for participating in the project experience. They work at the biological stations in the conservation area and bring their collections to INBio on a monthly basis, at which time technicians label them (each specimen receives a bar-code and a label containing geographic data—family name, altitude, type of weather, the collector's name, and the date), and process and prepare the material for taxonomic identification by the curator. Parataxonomists and technicians receive feedback, planning, and guidance from INBio's curators. They work within a larger network of national and international taxonomy experts. Gamez (1993), director of INBio, said the parataxonomist field work is considered an educational experience in its own right, to be conducted by the very people who own the biodiversity, by those who are responsible for its conservation and are supposed to be the beneficiaries of its existence. INBio collects local knowledge, through the parataxonomist, and it passes it on to the international and national business community.

4. Big Social Investment and Private Gains

INBio has not only a monopoly of knowledge but a monopoly of profits. INBio, as a private broker bolstered by its government, works as an intermediary between MINAE (administrator of the wildlife) and industry. According to Eduardo Gudynas, a researcher at Latin American

Centre for Social Ecology in Montevideo, INBio becomes the international-actor-negotiator of the Costa Rican state (Gudynas, 1997). INBio, created as a non-profit, is a private institution that manages the samples of biodiversity, enjoys jurisdiction on the inventory, prospecting, and commercialization of Costa Rican biodiversity (Gudynas, 1997). To trade biodiversity, INBio established a partnership with the Ministry of Environment and Energy (MINAE) to collect material from the Conservation Areas. In the agreement signed on May 1994 both INBio and MINAE assume that conservation areas are common goods in the state's hands. INBio's Inventory Division collects material from the Conservation Areas under MINAE administration. In exchange, INBio has taken the responsibility to support *the Sistema Nacional de Areas de Conservacion* (SINAC) (National System of Conservation). The tenth clause of the agreement stipulates that in cases of bioprospecting research, INBio must contribute at least ten percent of the original budget to support the management and conservation of the Conservation Areas. In INBio's first agreement (1991), Merck and Co. awarded INBio an US\$1 million dollars' research budget to carry out a two-year, non-exclusive collaboration. Conservation Areas received ten percent of the original budget to support their conservation efforts while INBio used 90 percent for research, certain start-up costs, and the training of four Costa Rican scientists at Merck. From 1992 to 1996, the transfers of money from INBio to the Conservation Areas was c./54,500,000.00 (CDN\$381,118.88) (INBio, 1996).

Conservation Areas are used as collector centres of single samples for interested industry. For instance, in 1998, INBio and the Netherlands started officially mapping and monitoring the ecosystems of five conservation areas: Arenal (ACA), Tempisque (ACT), La Amistad-Caribe (ACLAC), La Amistad-Pacifico (ACLAP), and Osa (ACOSA). Megadiverse wetland areas to be mapped and monitored included the large wetland of the Sierpe River Danta.

As of April 1997, INBio's Inventory Division had 26 Biodiversity Offices in the various Conservation Areas, where some 32 parataxonomists are stationed. INBio's support to the Conservation Areas is by looking for customers for Conservation Area resources through the promotion of the use of scientific knowledge in the management of the wildland areas; the

generation of financial “opportunities”; the promotion of ecology in the territory planning, and the strength of the institutional capacity.

Under the Canada-Costa Rica debt-for-nature agreement, INBio received CDN\$5,677,904.50 to support INBio's agreements with corporations in the chemical-pharmaceutical area. INBio, functioning as private corporation, has administrative freedom over the funds and can earmark their use. Debt-for-nature funds were, in fact, used in the Biodiversity Prospecting Division. The main objective of this division is the systematic research of new sources of chemical compounds, genes, proteins, micro- and macro-organisms, and other commercial products of interest. With that division, is trying to identify opportunities for products and services of added value which originate from biodiversity resources in order to obtain profits.

INBio is not subject to public control and information, nor is it subject to parliamentary control. Its negotiations with respect to Costa Rican biodiversity are secret. INBio's director has explicitly stated that the agreement with Merck and Co. Enterprise is not a public document, according to Costa Rican legislation, and that therefore there is no reason for it to be approved by the Congress (Gamez qtd. in Gudyness, 1997). According to Gudyness, this agreement goes against international conventions such as WI, IUCN, PNUMA that claim that public access to information is fundamental in formulating environmental policies.

Gudynas (1997) also argues that INBio denies the existence of privatization in its case because it does not have title of property over plants and animals. However, INBio has jurisdiction over parts or derivatives that a third party could trade in the international market, contradicting one positive aspect rescued as profit reclamation for Costa Rica. The owner of the specimen (pharmaceutical company) can patent byproducts of the specimen and INBio receives a percentage of the royalty from the trading (Gamez, 1993).

The second-tenth clause of the INBio-MINAE agreement states that if the research results in successful discoveries, any royalties awarded to INBio will be shared 50/50 between INBio and MINAE for the management and conservation of wildlands administrated by MINAE. Martinez-Alier (1994) argues that the ownership concept in this scheme is in trouble. Who

is the owner of the biological sample? The local community, the parataxonomist, the enterprise that bought it, the local government, the national government, or the NGOs? Furthermore, Martinez-Alier states, Nicaragua and Panama have the same biodiversity as Costa Rica. If INBio, MINAE, or other NGOs sell samples of biological species from Costa Rica which are also common to Nicaragua and Panama, who is, in fact, the owner?

5. Gaining Authority and Devaluing Community and Ecological Authority

INBio is providing no scientific expertise (regarding prospecting and biotechnology) but it still retains social authority. This authority was acquired in the first place through the formidable displays of technological and instrumental power issuing from biotechnology laboratories, Biodiversity Information Management System (BIMS), Internet, etc. INBio's interest in profit and power is intricately bound up with their interest in technological prowess. INBio relies on science and technology to secure their existence and permanence in the economic world.

As INBio became an authority, it reframed the characteristics and use of biodiversity. This was done by borrowing what is perceived to be the agenda of ecology. However, as INBio's work undermines the rights of the local communities to use their environment, the inadequacies and limitations of its conservation concepts become very clear. Attaching a dollar value to the local environment, and its organisms, actually devalues the local biodiversity and the community's local knowledge of the properties of that environment.

With the advent of biotechnology, life can be owned. The potential for gene separation and manipulation reduces the organism to its genetic constituents. Marie Mies and Vandana Shiva (1993) state that patents and biotechnology contribute to a two-way theft: (1) they steal biodiversity from Third World countries producers. Monopoly rights on life forms are conferred on those who use new technology to manipulate genes while the contributions of generation of farmers and agriculturalists, in the Third World, in the areas of conservation, breeding, domestication, and development of plant and animal genetic resource are devalued and dismissed; and (2) they steal safe and healthy food from every consumer of the world.

David Suzuki (1999) in the Series "From Naked Ape to Super Species" broadcasted from April 11 to May 30 in Canadian Broadcasting Corporation, presented a series of interviews to demonstrate the dangers of biotechnology. Genetic engineering, Suzuki states, is the ultimate expression of reductionism. Biotechnology confers the power to design new life forms that never occurred to nature. But biotechnology is dangerous because it is unnatural. The reason is that genes are defined by their context. "Genes are like an instrument in an orchestra, each places its parts according to the score, playing together they make beautiful music. Taking a gene from one species and sticking it into another puts it into an entirely different genetic milieu. Making new genetic combinations is unnatural (May, 1999)." Biotechnology is not precise. It has no control of the genetic context and that makes it dangerous.

Furthermore, biotechnology is based on the assumption that genetics is capable of predicting the patterns of inheritance of genes and how they are expressed. But prediction is only possible when genes are crossed within species and not when scientists cross species boundaries (where human genes are placed in animals, animal genes in plants, and plants genes in animals) because it is a new reorganization of life at the genetic level. Brian Goodman (interviewed by Suzuki) said: "... in genetic engineering, the assumption is that whatever characteristic you are interested in, can be transferred by moving the genes. Moving genes from one to another will have unpredictable effects which simply cannot be anticipated." Genetic engineering increases the frequency with which viruses from one species are introduced into another because they cannot move from one species to another in the natural world. This is very rare and when it happens it can be catastrophic. In the longer-term, Suzuki suggests, genetically-engineered organisms are not just captive in the laboratory, they are being released into the environment. Jeremy Rifkin (interviewed by Suzuki) comments,

the implications in releasing engineered organisms into the environment are quite different than the implications of releasing petrochemical products or nuclear products into the environment. To begin with, genetic engineering are alive, they are unpredictable. Secondly, because they are alive they can

reproduce, they can mutate, they can proliferate, spread quickly across the world. (Suzuki, 1999)

These acts of colonization are called acts of sustainable development and improvement. In carrying them out, INBio has opened the doors for capital accumulation of industry to become firmly established in commercial genes' production. The colonization of nature reflects the patterns of colonization of countries and of women's bodies. Biodiversity is the new source of threat to life of the colonies, and of women.

6. Re-Colonization

INBio's management envisions biodiversity bioprospecting as playing an important role in reorienting industrial companies' traditional patterns of natural resource use, as well as breaking down one-sided agreements that have tended to benefit only developed countries by ensuring that the source country receives a fair treatment from any commercial utilization of biodiversity (Sancho, n.d.). Elvira Sancho, from INBio, states that by establishing mutually beneficial agreements, INBio is breaking the centuries-old tradition of freely accessing biologically rich material from tropical countries without providing returns to the country of origin. Furthermore, she says, these partnerships promote the upgrading of the country's scientific and technological capacity through technology transfer and training opportunities for Costa Ricans in the short-term, while generating the financial means to support the country's wildland maintenance costs in the medium-term (n.d.).

Eduardo Gudynas (1997), using the Peruvian experience, disputes this belief. He states that royalty payments do not assure fair treatment. For instance, he explains, a German company that exploits "*Una de Gato*" from the Ashaninka's community in Peru, made US\$25 million in 1996, of which only US\$60,000 was paid to the community (Gudynas, 1997). INBio's work is helping northern industry to rob Costa Rica's heritage, and probably, the entire Latin American region's heritage as well.

Without turning colonized countries, their lands and their people, into free resources the capitalist economy could not have evolved. From the ecological point of view it is impossible to determine the price of biological resources. From this perspective, what the pharmaceutical companies are paying for the biological samples is symbolic. First, the capture value cannot be calculated in terms of (biodiversity) forests' annual productivity; second, forests' protection and maintenance value (only include the administrative cost); third, the resource value, when used as an input in production, has been never calculated (yet, it has been a major source of profits for industrial countries). According to Martinez-Alier (1996), a Spanish economist, from an ecological perspective, the economy lacks common standards of measurement because we do not know how to give present values to future, uncertain, and irreversible contingencies, and because such values depend on the allocation of property rights. Prices depend on the distribution of income and on the problematic allocation of property rights to items of "natural capital." Thus, future costs and benefits are very much in doubt.

Martinez-Alier (1996) argues that the measurement of present value costs and benefits will depend on the rate of discount. The appropriate rate of discount would be determined by the "sustainable productivity of capital," but the measure of sustainability depends on the measure of depreciation of natural capital and the measure of natural capital depends on the allocation of property rights and on the distribution of income. That is why measures in monetary terms look so arbitrary. Thus, to assess intellectual property claims in these processes is far more difficult, if not impossible.

Thus, INBio agreements are deepening the shift in power from communities to industry, from the keepers to the wasters, from Costa Rica to core countries who are the owners of industry. Nature's mimetic properties will be patented and owned by corporate profit-oriented industries (INBio) while communities work and non-industrial countries' natural resources are devalued. Therefore, the development of the North continues to deepen the underdevelopment of Costa Ricans, as patents will become a major means of establishing profits as a measure of value. "The granting of patent privileges over genetically engineered

micro-organisms, plants, and animals represents the culmination of a five-hundred-year movement to enclose the planetary commons” (Rifkin, 1993: 70).

C. Conclusion

Debt-for-nature investments reinscribed Costa Rican land into capital via science. The state, as the land owner, through INBio, invited the international community and pharmaceutical industry to take advantage of the enclosure of the forest for research. If they find something to patent, they can do as long as they pay royalties that NGOs and MINAE (Ministry of Environment and Energy) will share. In Costa Rica there are no channels to discuss the NGOs’ appropriation of community knowledge that is currently taking place. Commodification of nature and knowledge have converted community-owned resource and knowledge into free resources for NGOs to sell for profit.

Chapter Five

The Arenal Project: Phase I, 1991-1995 (Commodification of Nature)

Sustainable development management requires not only macro-economic policies but also management of human resource development. (Hamilton, 1999)

Every Conservation Area in Costa Rica has a godfather. Canada is the godfather of Arenal Conservation Area. (Jimenez, Summer 1998)

Much of the information on the structure and functioning of the Arenal Project presented in this chapter was collected from Arenal Conservation Area (ACA) library located in Tilaran as well as interviews with WWF-C officials and others. Once again, with the kind help of Don Felipe Mates, Natural Resource Program Director of the University for Peace, I was able to interview Mr Claude Tremblay, the Canadian WWF-C Executive Director of the Arenal Project. Mr Tremblay actually drove me to the Arenal Project's main office in Tilaran (in the northern-central of the country) where he introduced me to the WWF-C personnel responsible for the Arenal Project. Canada and the World Wild Fund-Canada have been working in ACA-Tilaran since 1991. The Arenal Project is based on a covenant between MINAE-CIDA-WWF-C. WWF-C offices in Tilaran are shared with with the *Ministerio del Ambiente y Energia* (MINAE) (Ministry of Environment and Energy) and with the *Fundacion para el Desarrollo del Area de Conservacion Arenal* (FUNDACA) (Arenal Conservation Area Development Foundation). I was able to interview four WWF-C officials there, including the Coordinator of the Women in Development (WID) Program for the Arenal Conservation Area, and the Coordinator for the Fortuna Priority Working Unit (PWU), as well as MINAE officials from the *Unidad de Control* (Control Unit). In Fortuna, I also interviewed agronomists in the Ministry of Agriculture and Livestock (MAG), and the Director of the Ministry of Health. I very much appreciate the time each of these people took with me. Where I have cited them by name, it is with their permission. However, for some I have used pseudonyms, even though I had their permission to quote them directly, to protect their privacy wherever I deemed it necessary.

In Tilaran, I discovered that the implementation of women in development programs using the debt-for-nature investments was a “revolutionary proposition.” Mr Tremblay spoke very proudly of the women’s achievements during the two years the program had been implemented. I had the opportunity to attend a *Sesion para Pequenos y Medianos Productores: Silvicultura y Reforestacion* (Session for Small and Medium Producers: Forestry and Reforestation) organized by the Arenal Project when I first arrived in 1998. During that session, I had the opportunity to meet a woman who belonged to GEMA (*Grupo Ecologico de Mujeres del Abanico*), a member of Fortuna PWU, with whom I spoke about my research interests. She was excited because the group was having problems with their project and she invited me to meet with them and visit their micro-enterprise in Abanico. I was very fortunate to meet this particular woman as it opened the door for me to pursue a closer examination of the practice of sustainable development in ACA-Tilaran with a specific Women in Development project, which I will discuss in detail in Chapters Seven and Eight.

The Arenal Conservation Area (ACA) is one of the eleven regions protected under the *Sistema Nacional de Areas de Conservacion* (SINAC) (National System of Conservation). It is located in the northern part of the country, between two slopes (Atlantic and Pacific) and two mountain ranges (Guanacaste and Tilaran). Its altitude ranges from 164 feet above sea level near San Rafael de Guatuso to 6,653 feet above sea level at the peak of the Miravalles volcano. It covers 940,000 hectares (ha.), or 20 percent of the national territory. It comprises two sub-areas: ACA-Huetar Norte and ACA-Tilaran. This thesis refers only to ACA-Tilaran, which used to cover 204,000 ha. (4.08 percent) of the national territory, but has recently been expanded to 250,561.5 ha. (M. Mora, 1998). According to the managers working in the Arenal Conservation Area (ACA)-Tilaran was intended to establish a Model of Environmental Management in the Arenal Conservation Area (ACA) that can be reproduced in other Conservation Areas.

The mission of ACA-Tilaran is the protection of water run-offs (hydrographic *cuencas*), particularly those that contribute to the Arenal Reservoir (*Embalse Arenal*), such as Rio Chiquito, Rio Burio, Rio Burro, Rio Fortuna, Rio Tabacon, Quebrada La Palma, Microcuenca Agua Caliente, Aguas Gatas, and Cano Negro. The Arenal Reservoir is an

artificial lake with a surface of 87.2 square km, situated 546 metres above sea level. Arenal Reservoir protection is central to the country and particularly central to *the Instituto Costarricense de Electricidad (ICE)* (Costa Rican Hydro-Electric Institute). The protection of ACA's water resources is an issue of national interest. The reservoir constitutes the main source of hydro power for two projects of significant economic, agricultural, and energy importance: *El Proyecto Hidroelectrico Arenal Sandillal* (Arenal Sandillal Hydro-Electric Project) and *El Proyecto de Riego Arenal (Tempisque Arenal Tempisque Irrigation Project)*. The Arenal Conservation Area is also host to the Miravalles Geothermal Project, Aeolian Projects such as *Plantas Eolicas S.A* in Ranchitos de Tilaran, *Aeroenergia S.A.* in Tejona de Tilaran, and *Molinos de Viento Arenal S.A (MOVASA)* in Tierras Morenas de Tilaran, projects which have all been developed for the production of electricity. The ACA is, in fact, considered the *Corazon Energetico De Costa Rica* (the energy heart of Costa Rica) because of the number electrical projects it houses. In addition, about 70,000 ha. of land in Guanacaste's dry zones are irrigated with the waters from the ACA.

Protection of natural resources through the concept of management is very expensive, because it implies acquisition of land, personnel for "protection and control" of the areas, and training of staff in fields such as administration and infrastructure. Management needs extensive and expensive political and administrative decision-making, monitoring, and enforcement that the Costa Rican government is unable to provide. The Costa Rican government has been able to provide a minimum amount of financial support the *Sistema Nacional de Areas de Conservacion (SINAC)* (National System of Conservation Areas), to cover a minimum portion of salaries and transportation. Thus, Costa Rica's private and public conservation projects rely heavily on international aid and have received the majority of their funding through direct donations by international entities or through debt-for-nature investments.

In 1991, the Arenal Project, WWF-C, CIDA, and MINAE, elaborated as a first step of their management plan, *El Plan General de Uso de la Tierra* (The General Land Use Plan) (hereafter referred to as the Land Plan). According to the Canadian Director, Claude Tremblay (1998) the Land Plan in ACA was based on the characteristics of the territory and

its biophysical potentialities. It also provided some knowledge and identified the limits of acceptable human intervention for the sustainability and the qualitative improvement of its natural resources. “This tool for territory organizing took 12 months and CDN\$140,000 dollars to develop.”

A. Players in ACA-Tilaran

In the preservation of the Arenal reservoir, ACA has three partners: (1) *Ministerio del Ambiente y Energia* (MINAE) (Ministry of Environment and Energy); (2) the Arenal Conservation and Development Project (the Arenal Project) (Covenant between MINAE, CIDA, and the WWF–Canada); and (3) the *Fundacion para el Desarrollo del Area de Conservacion Arenal* (FUNDACA) (Arenal Conservation Area Development Foundation).

1. Organizational Structure of MINAE

MINAE, or the Ministry of Environment and Energy in Costa Rica is in charge of ACA’s administrative mechanism. The administrative mechanism relies on state regulations. MINAE relies on the economic agents’ self interest, and in the *Unidad de Control* (control unit) that patrols ACA’s territory. MINAE coordinates the work of different actors in the management and control of the *zona de influencia* (buffer zones) where so-called sustainable development is taking place (M. Mora, 1998).

Administratively, ACA is divided in two sub-regions: a) Tilaran sub-region (*Centro Operativo* (head offices): Quebradon, Rio Naranjo and seven operative centres and the Arenal Volcano National Park); and, b) San Ramon sub-region (*Centro Operativo*: Cedral, Bajo la Paz-Colonia Palmerena). The Tilaran sub-region is involved in: a) researching ACA’s biodiversity resources and biodiversity knowledge; b) patrolling wildlife protected areas; c) receiving, evaluating, and approving the Forestry Incentive Programs; d) promoting the payment and compensation for the CO² that the wildlife areas and other forestry areas provide (M. Mora, 1998).

San Ramon sub-region is involved in: a) coordinating payments to owners of forestry plantations or to owners of land suitable for natural forestry regeneration that are participating in the Forestry Incentive Programs; b) developing registration programs with the goal of granting licences and permits for hunting, fishing, and tree-cutting. This program is enforced by the *Unidad de Control* (Control Unit), a team that patrols the wildlife protected area; c) supporting and following up organized groups; d) promoting investigation of alternative socio-productive activities and sustainable development; e) promoting environmental education activities (Arguedas, 1998).

MINAE administrative activities with regard to the Arenal Project, Phase II, use debt-for-nature investments to plan and develop the Arenal Project activities, through personnel *contra-parte* (counterparts) contracted for that purpose. It is obliged to remit without delay the funds arriving from the Central Bank, and the Costa Rica–Canada Trust Fund for Biodiversity, the FIDEICOMMISSA, to the accounts of the Arenal Project. MINAE participates and co-directs the *(Comite de Orientacion del Proyecto (COP))* (Project Committee Orientation that ratified the *II (Plan General de Operaciones de II Etapa* (General Operational Plan for Phase II) (*Propuesta* 1995).

2. Organizational Structure of the Arenal Project

The Arenal Project is a covenant between MINAE and CIDA and between CIDA and the World Wildlife Fund-Canada (WWF–C). World Wildlife Fund-Canada (WWF–C) is the Canadian environmental agency that manages the Arenal Project. WWF–C’s leadership role is shared with MINAE, which is the Costa Rican *contra parte* institution. WWF–C’s administrative functions are divided between the Toronto, Canada (the main office), and the Costa Rican office. The Toronto office has global responsibility for the project’s administration. It hires Canadian personnel under long- and short-term contracts, and it participates with CIDA and MINAE in the *Comite de Orientacion del Proyecto (COP)* (Project Orientation Committee). It must assure support to the Costa Rican office, particularly with the necessary financial resources. The WWF–C in Costa Rica, represented by the Canadian co-director of the Arenal

Project, has the responsibility of supporting and supervising the activities of the project (*Propuesta*, 1995).

WWF-C was founded in 1967 as a subsidiary of the WWF located in Switzerland. Its primary purpose is wildlife conservation (plants and animals). Its priority activities are defined by the Union for Conservation of Nature and Natural Resources (IUCN) and can be summed up as follows: (1) genetic, species and ecosystems diversity preservation; (2) sustainable use of the renewable resources for the benefit of life on the earth; and (3) reduction of contamination and over consumption of resources and energy. It is present in Canada, Mexico, Central America, South America, and the Caribbean. The organization is financed by donations, selling services, and project administration, such as the Arenal Project (WWF-C 1996).

The Arenal Project has two directors: Claude Tremblay from WWF-Canada is the Canadian director. The Costa Rican co-director changed in 1998. The first director from MINAE was Roberto Garcia; the second director is Maureen Ballestero. The Arenal Project team is furthermore made up of five Costa Rican colleagues. Using debt-for-nature investment funds the Arenal Project has three operational committees. All the members on the committees are from MINAE, CIDA, and WWF-C. These committees are: a) *Comite de Orientacion del Proyecto* (COP) (Project Orientation Committee); b) *Comite Tecnico Asesor* (Technical Assesment Committee); and c) *Comite de Credito* (Credit Committee).

The purpose of the Arenal Project is to protect ACA from further environmental degradation and help to stabilize land use by strengthening the natural resource management capacities and improving the quality of life for the public and private sectors (Tremblay and Malenfant, 1996). According to its proponents, the Arenal Project developed structures of consultation that would facilitate the reconciliation of many different interests and needs within the region. Roberto Garcia and Claude Tremblay, co-directors of the program in the first phase, maintain that the Arenal Project's philosophy is to stimulate and to support the participation of all the actors in the necessary debate around the region's natural resources. The model applied is called sustainable development. "The model permits us to discuss and to look for harmony of local, regional, national and international interests" (Tremblay, 1999: 19).

Since 1991, the Arenal Project has been in charge of the market-incentive mechanisms in ACA. The incentive mechanisms rely on two kinds of mechanisms: price mechanisms and quantity or market mechanisms (Borrini-Feyerabend, 1996). The Arenal Project team works in partnership with MINAE in order to: establish annual strategic plans; promote public awareness of conservation and sustainable development; involve other government and non-government agencies; encourage the development of community-based sustainable development projects; grant funds and make loans to worthy projects; conduct training programs; encourage the involvement and training of women in all aspects of the work; strengthen protection in the nucleus area; and monitor and evaluate progress (Arenal Conservation and Development Project).

The mission of CIDA in the Arenal Project is to provide technical and financial support to the *Sistema Nacional de Areas de Conservacion* (SINAC) (National System of Conservation Areas) in order to organize the management of nature and the establishment of MINAE-regional offices (Garcia and Tremblay, 1997: 7). CIDA's administrative functions are: to approve the Arenal Project activities; to contract the WWF-C as the Canadian Agency responsible for conducting the sustainable development activities; to monitor the progress; to make available the necessary funds; to direct the operational review of the process; and to make the final evaluation. CIDA participated in and co-directed the *Comite de Orientacion del Proyecto* (Project Orientation Committee) that ratified the *Plan General de Operaciones de II Etapa* (General Operational Plan for Phase II); the overall budget; *Plan de Trabajo y Presupuesto Anual* (the Working Plan and Annual Budget) (*Propuesta*, 1995).

As a policy designer, CIDA makes bilateral aid conditional on recipients' compliance with structural adjustment measures proposed by the international financial lending institutions (IFIs). CIDA insists that the key to development lies in market-oriented, market-directed economic policies. In the wake of the discredited development ideology, CIDA still holds the idea that living standards of the poor will rise as the benefits of economic growth trickle down (Cox, 1992). Using development/modernization theory, Third World countries are expected to follow the development trajectory of the West in an evolutionary fashion.

The Land Plan provided the argument for the implementation of the Arenal Project's programs in the designated buffer zones:

- a program to promote and assist, technically and financially, socio-productive alternatives (micro-enterprises);
- a program of eco-tourism, in concert with the local tourism industry, the communities, the municipalities, and the governmental bodies within the protected areas and their surrounding territories;
- a program for environmental education to change the relationship between society and its natural resources, in concert with schooling institutions, NGOs, and community groups within the ACA territories;
- a research program that functions on the basis of inter-institutional agreements;
- a program of information, by which a documentation centre and a computerized geographical information centre make data available for the actors to sustain their efforts within the planning framework (Tremblay and Malenfant, 1996).

The Land Plan also constituted the technical and conceptual reference for 30 cooperation agreements and technical assistance with cooperatives and local NGOs (Garcia and Tremblay, 1997). The Abanico Medicinal Plant and Organic Agriculture, used as an example in this study, is one micro-enterprise organized under the cooperation agreement between the Arenal Project and Asociacion ANDAR which is an NGO using Holland debt-for-nature funds to organize micro-enterprises around the development of medicinal plants and organic agriculture.

3. Development Foundation for the Arenal Conservation Area—FUNDACA

Fundacion para el Desarrollo del Area de Conservacion Arenal (FUNDACA) (Arenal Conservation Area Development Foundation). FUNDACA was organized in 1995 by the Arenal Project. Its aim is to guarantee the continuity of sustainable development. "Once the Arenal Project is gone, FUNDACA will be in charge of supporting local group's initiatives, by channelling the credit and/or the technical and financial support to local groups in ACA's prioritized communities." (FUNDACA).

B. Sustainable Development Philosophy of the Arenal Project

As indicated previously in Chapter Three, the assumptions underpinning the Arenal Project are those which O'Connor (1994a) and Wackernagel and Rees (1996) identified as the causes of the exhaustion of renewable resources

a) controllability of ecosystems. The Arenal Project, using geographic planning, presumes control over the combination of space units with social, environmental and economic aspects;

b) dominance over the environment. The Arenal Project, using territorial planning, presumes a world of simple rules.

c) independence of production processes from each other. The Arenal Project presumes that micro-enterprises can be expressed without explicit reference to the levels of activity of other economic processes within the system;

d) substitution of production factors. The Arenal Project assumes that a genetic-and-ecotourism-based economy can replace a resource-based economy, and contribute towards economic growth.

1. Conservation in the Arenal Project

As discussed in Chapter Four, much like INBio, the Arenal Project conservation scheme treats both nature and human nature as production factors, representing new types of raw materials, or inputs to be managed according to the markets. Using the corpus of the modern theories of production and growth, the Arenal Project organizes conservation in the context of economic monetarist policies. The market plays the central role and value is measured only in terms of profitability. This means that it uses market mechanisms to achieve environmental goals; therefore, the stage is the market and conservation is a by-product to assure commercial expansion.

Like INBio, the Arenal Project sets out four concepts of nature-management expressed within the market criteria: *first*, nature has a price; thus, support privatization of enormous sections of the land; *second*, maximization of benefits, growth, and capital accumulation minimize the impact of the transactions in nature; thus, mobilize local groups in favour of productive investment and eco-tourism, linked to the international market; *third*, privatize biological resources and collective knowledge by enclosing the nucleus areas and using the collective organized local knowledge to initiate the collection of biodiversity; *fourth*, the market is considered the best organizer of social and environmental relations; thus, the market ignores the fact that societies are organized around class, gender, and race which prevents the possibility of fostering harmony of local, regional, national and international interests.

2. The Sustainable Development Approach of the Arenal Project

The sustainable development concept with reference to ACA, defined by WWF-officials in Costa Rica, evolved as follows. In 1996, Claude Tremblay and Daniel Malenfant defined it as “the utopian synthesis of these three movements [unionism, ecologism, and feminism]... a mode of development which would take into account the inherent limits of the biosphere as an ecological frame of reference ... the stratification between human beings, and the human beings with nature in their present forms of domination” (1996: 2). The authors proposed rethinking the social relations along with the relationship with nature, complemented with the rejection of the productivist mode of development. “Market economics cannot, but with great difficulty, respond to the imperatives of sustainable development, because its rationality excludes the fundamental notions of social equity and respect of the biosphere” (Tremblay and Malenfant, 1996: 18).

In 1998, I interviewed Mr. Tremblay, the WWF-C official and Canadian director of the Arenal Project, who elaborated on the meaning of sustainable development states:

For sustainable development I understand the conservation of nature, the use and conservation of the natural resources in a way that maintains the economic capacity of the *finca*, the community, the enterprise, the cooperative and the country. In this concept the richness of biodiversity and

economic prospecting are fundamental ingredients. Biodiversity must be seen as a scenic value for tourism, and as an area for protection, for academic research, and for economic prospecting. The sustainable management of the animals, micro-insects, plants, etc. must be useful for the economic activity that the market requires. The market is an important element to consider in the protection of the wildlife and in the need to give them a use and sustainable management, particularly considering the demographic pressure and the globalization elements that in the economic sphere polarize the situation between rich, poor and destitute. (1998a)

In a second interview conducted during the same year, Mr. Tremblay expanded on the goals of sustainable development:

The challenge is how to manage the balance between conservation versus usufruct (use). If we just take into account the protection of the resources (historical vision of the environmental movement) we are in a deadlock situation, unable to think of the future, of how we can sensitize others about the existence of poor populations living in highly risky environments. In addition, how can we offer to poor populations eco-friendly economic opportunities in the production of their *fincas*, cooperatives, and enterprises. With the concept of sustainable development, the economic and the socio-organizational dimensions of life are finally together in an optimal way. (1998b)

Assuming the market as the central player, value is measured only in terms of profitability. A pamphlet entitled, "Description of the Arenal-Tilaran Conservation Area," (made available by ACA-Tilaran's central offices) clearly underlines the reasons why conservation efforts in the ACA are seen as crucial. These reasons, unfortunately also promote Transnational Corporations' (TNCs) investments in farming, wood and forest activities, environmental services, and the extraction of earth minerals in ACA.

In 1993 a study was done about "Geology and Mineral Deposits of ACA-Tilaran." In the study it was determined that ACA-Tilaran had a significant mineral potential ... especially gold and non metal deposits of raw materials for construction. These are two sites that are important in the system in ACA-Tilaran. The first place is near Miramar City (Bellavista Mine) and the second is Rio Chiquito Valley (Rio Chiquito Mine). The earning potential of those sites is \$720 million dollars. The companies that operate the mines are studying the environmental

impact and are monitoring the area with the goal of protecting the surrounding natural resources.

In this way, the Arenal Project's theoretical framework ignores the economic, political, and social aspects of environmental degradation and the creation of debt crisis. Instead it reinforces the notion that there is a profound incompatibility between nature and society, that poor countries must accommodate and provide for rich countries' needs, and in so doing, that the poor will ultimately benefit.

C. The Problematic Sustainable Development

In the interests of commercial exploitation of biodiversity in the rich Costa Rican rain forests, MINAE and the Arenal Project, Phase I, downplay the needs of the local communities. The Project changes the community land availability; it re-colonizes the country by appropriating community genetic material; and it organizes nature into biological corridors for tourist attraction.

1. Changes in Community Land Availability

The Land Plan allowed MINAE to strategically provide for a) the creation of diverse types of management of natural resources; b) a program for the protection of natural resources to maintain the potential of wildlife, water, and biodiversity within this territory; and c) a program for CO² capture.

a. Creation of diverse types of management of natural resources. The Arenal Conservation Area-Tilaran involves 250,561.5 (ha.) of land. From this total, the Land Plan document recommended protecting of 116,690.2 hectares, almost half of the Tilaran sub-area. The protected reserves include:

- Laguna de las Camelias (Wildlife Sanctuary)
- Tenorio (National Park)
- Tenorio (Protected Zone)

- Miravalles (Protected Zone)
- Cano Negro (National Sanctuary of Wildlife)
- Embalse Arenal (Protected Zone)
- Arenal Forestry Reserve
- Arenal National Park
- Arenal Monteverde (Protected zone)
- Alberto Manuel Brenes (Biologic Reserve)
- Juan Castro Blanco (National Park)
- Cerro El Jardin (Forestry Reserve)
- Corredor Fronterizo CR-Nicaragua (National Sanctuary of Wildlife)
- Curena Curenita (Forestry Reserve)
- Humedal Palustrino Laguna Maquenque
- Humedal Lacustrino Lamborcito

b. Protection of natural resources to maintain the potential of wildlife and biodiversity. Of the the 116,690.2 ha. of protected area, 76,707 ha., this is, 37.54 percent of ACA, are declared to nucleus areas (*area nuclei*). They are as follows:

* Miravalles (Protected Zone)	11,670	ha
* Volcan Tenorio (National Park)	12,819	ha
* Volcan Tenorio (Protected Zone)	3,852	ha
* Volcan Arenal (National Park)	12,10	ha
* Volcan Arenal (Forestry Reserve)	231	ha
* Arenal Monteverde (Protected zone): Bosque Nuboso Monteverde and Bosque Eterno de los Ninos	28,261	ha
* Alberto Manuel Brenes (Biologic Reserve) (MINAE -Proyecto de Conservacion y Desarrollo Arenal, 1997)	7,800	ha

The Land Planning's biology section identified 4,283 species of flora and fauna in the nucleus area. They represent 36% of the natural wealth of Costa Rica. Biodiversity in ACA was classified as:

Table 13

Flora and Fauna in ACA Compared to Costa Rica

	<u>Flora</u>	<u>Fauna</u>	<u>Total</u>
<u>Total in ACA</u>	3,451	832	4,283
Endemics	24	45	69
% of total endemism	2.2	73	5.98
		(no insects)	
% of total species	33.33	57.61	36
<u>Total in Costa Rica</u>	10,353	1,583	11,936
			(no amphibians, birds or reptiles)

Source: Plan General de Uso de la Tierra, Resumen Ejecutivo-ACA in Situacion de la Biodiversity del ACA y su Manejo, Celso Alvarado, Tilaran, June 1998)

ACA's territory is considered one of the richest biodiversity areas in Costa Rica. Eight of twelve life zones existing in Costa Rica are found in ACA. Some 28.85 percent of Costa Rica's flora can be found in the Arenal Conservation Area, particularly in Monteverde and Alberto Manuel Brenes Biologic Reserve. There are also 2,986 species of vascular plants; 70 arborescent families; 276 species of orchids, 884 species of potential ornamental plants, 20 plants which can be used for medicinal purposes, 55 kinds of timber or firewood, 63 edible plant species, 15 kinds of vegetation that are toxic, 17 kinds of plant life specifically for fauna, and 94 areas of cultivated and pasture land have been identified (Alvarado, 1998).

Wildlife constitutes approximately 57.61 percent of the lifeforms in Costa Rica's ACA—57.45 percent mammal; 68 percent fauna bird (avifauna); 62 percent reptile. El Arenal Basin Arenal is home to 119 species of seaweed, 58 species of zooplankton, 35 species of fish out of a total of 127 in all of Costa Rica (Alvarado, 1998).

c. Selling environmental services-CO² capture. Conservation Areas also are paid for the environmental services they provide. *Fincas* (small farms) are forced to be part of the biological corridors, even though they are cash crop producers. In ACA-Tilaran, *fincas* located in or out of protected areas, *fincas* that contribute to the conservation of fauna, flora and water run-offs, important cultural and archaeological areas (MINA, Legal Department, DAJ-D-039-98.), lands bordering forests that host wildlife, potential lands for biological corridors,

Priority Working Units (PWU), and the Arenal Basin Management Planning Program participate in the Forestry Incentive Program (FIP).

Model farms have been established in which the forest is valued economically through the securing of CO² strategies; ecotourism; services for the community; air and land protection; traditional wood products; pallets, furniture, wood for construction; biodiversity, sponsorships; buying of trees to protect threatened species; certification of council processes; reduction of managing costs; standing tree as a mortgage guarantee; and other new wood products. From 1979 to 1996 86,862.64 hectares has been worked on through forest management utilizing the forest and reforestation. It is estimated that 40 percent of the wood consumed in Costa Rica comes from ACA-Tilaran. ("Description of the Arenal-Tilaran Conservation Area," n.d.)

2. Re-colonizing the Country by Appropriating Community Genetic Material

The Land Plan transformed wildlife into a mere resource for scientific research. The Land Plan, in fact, re-privatized part of the land for the exclusive use of research. Conservation Areas that enclose reserves of genetic material are put under pressure by the commercial interests of industry and corporate NGOs. Traditional practices in forest-covered areas conserve rich genetic material. For instance, the Frijol Tapado System, practised in the southern part of the country, had identified more than 35 varieties of beans used under the system (Jimenez, 1988). (*Frijol tapado* is a lane system where beans are grown. The system permits the peasants to spread beans around, cut down vegetation on top of the seeds, and wait three months until the beans have matured. During that period, the peasant can be working a different job.)

The Land Plan created the conditions for appropriation of nature and the local folkloric knowledge of plants and animals. When land rights re moved from small farms and placed into the hands of government, competition for inventory and prospecting began in the Conservation Areas. The main beneficiaries the Land Plan were industrialized countries' research centres, and NGOs (local and foreign).

As competition for trade in biodiversity gains international momentum, competition in biodiversity knowledge grows. INBio, MINAE, and WWF–Canada are joined by ACOMAPAS and *Asociacion Conservacionista Monteverde* (ACM) in the exploitation of the biodiversity of Arenal Conservation Area

Since 1994 and 1996, ACA's nucleus areas have been the basis of three research organizations: INBio, MINAE, and PROACA.

a. INBio. In the Arenal Conservation Area, INBio has three biological stations: i) San Luis de Monteverde; ii) Cerro Chato; iii) Quebrada Guatuso.

b. ACA-MINAE. In 1998, ACA-MINAE, in partnership with INBio, undertook two research projects: 1) Biodiversity Resources of the ACA Development Project, financed jointly by the World Bank and INBio; and, 2) Development Knowledge and Sustainable Use of Costa Rica's Biodiversity, ECOMAPAS, financed by The Netherlands (M. Mora, 1998).

In the ECOMAPAS project, INBio and Sistema Nacional de Areas de Conservacion (SINAC) are partners of the Netherlands. In September 1998, the ECOMAPAS project started with mapping and monitoring Costa Rica's National Biodiversity and Ecosystems. The goal of the project is the development of knowledge and the wise use of Costa Rica's biodiversity, through endemic services preservation, ecosystem restoration, incentives for payment of environmental services and land planning. During the course of two years, five Conservation Area—Arenal (ACA), Tempisque (ACT), La Amistad Caribe (ACLAC), La Amistad Pacific (ACLAP) and OSA (ACOSA)—will be ecologically mapped at a detailed scale of 1:50,000 (Kappelle, 1999). The basis of the mapping process is INBio's species-per-area database and aerial photographs (scale 1:25,000 to 1:40,000). An ecological GIS system will be developed for each conservation bases and MINAE personnel will be trained to manage the system.

c. World Wildlife Fund-Canada (WWF-C) and *Asociacion Conservacionista Monteverde* (ACM)—*Biodiversity-Programa de Investigation para el Uso Rational de la Biodiversity en el Area de Conservacion Arenal* (PROACA). Since 1996, *Biodiversity-Programa de Investigation para el Uso Rational de la Biodiversity en el Area de Conservacion Arenal* (PROACA) (Research Program for the Rational Use of ACA's Biodiversity) is a joint research project between WWF-C and ACM. WWF-C and ACM have worked together since the 1980s, years before the WWF-C was the Canadian organization contracted by CIDA to coordinate the Arenal Project. PROACA's NGOs got permission from MINAE to collect material from ACA under MINAE and the Arenal Project administration. Taking advantage of ACA's Land Plan, PROACA proposed to research flora in ten areas of the ACA territory. PROACA's goal is to promote, organize, and direct selective technical and scientific research on aspects of tropical forest regeneration, biodiversity use, potential use, and management of ACA's natural resources. The project also proposed the development of socio-productive initiatives by local organized groups that would put prices on ACA's biodiversity. According to its proponents, the project combines bioprospecting with biodiversity conservation and sustainable development. However, it is not clear what arrangements the NGO partners have agreed to provide to MINAE.

PROACA's aims are a) regeneration program of the tropical forest; and b) inventory of flora. PROACA's project has two research components, each of them limited to five years.

The first component has three phases. In the first phase, the project is limited to ACA's boundaries: San Gerardo (Tilaran), La Tigra (San Carlos), Arenal Volcano (National Park), Alberto Manuel Brenes (Biologic Reserve) and Tenorio Volcano (National Park). In the second phase, after a detailed inventory of flora and monitoring of soil regeneration, the generation of products originating in the areas of biodiversity will be attempted. In the third phase, an additional five of ACA's nucleus areas: San Bosco de San Carlos, Miravalles (Protected Zone), Cano Negro (National Sanctuary of Wildlife), Juan Castro Blanco (National Park), and Curena Curenita (Forestry Reserve) will be mapped.

The project promises to: a) produce educational, scientific and technical publications; b) delimit the exact zoning of ACA's natural resources and biological diversity; and, c) continue the research the next five years. The total amount budgeted was CDN\$ 2,178,100.

The appropriation of nature became regulated in 1998 by the Biodiversity Law, Art. 6, that confirmed "biochemical and genetic properties of wildlife and domestic biodiversity are in the public domain. Therefore, the state authorizes exploration, investigation, bioprospection, use and exploitation of the biodiversity elements." Since 1998, the access to wildlife species (genetic and bio-chemical) under the public regime is regulated by licences, permits, and bidding.

3. Organizes Nature into Biological Corridors and Tourist Attractions

The Land Plan re-privatized the land for exclusive use as biological corridors and tourist attractions ignoring the fact that Costa Rica's national land is already concentrated in a few hands. The Land Plan further reduced land availability and increased depletion of the resources of the area. With the implementation of the measures stipulated in the Land Plan, the ACA-Tilaran human population of some 100,000, grouped in 108 communities, were reduced to living in little more than half of the area they were used to living in, that is, from 204,000 ha. to 133,871 ha.

a. From Arenal Volcano Forestry Reserve to Arenal Volcano National Park.

Central to the changes in ACA, particularly in the city of Fortuna, was the Land Plan's recommendation to change the Arenal volcano category. The Arenal Volcano had been designated as Forestry Reserve in 1969 (Law 4380) with five protected ha., but in November 1994, it was changed to Arenal Volcano National Park (Decree No. 23774-MIREENEN) with 12,010 ha. In 1998, I interviewed Mr. Rogelio Jimenez, the first Director of ACA and current Director of Arenal Volcano National Park, who explained the work done by the Arenal Project

When the area was not controlled, people used to take advantage of the resources of the area, resources they did not pay for. ACA made the people wake up to see that they have a resource that belongs to them and that these resources need conservation. ACA told the people that they should press for payment for the use of its resources. (Jimenez, Summer 1998)

While the majority of the land around the volcano is not arable, or adequate for cattle ranching, small farms had existed in the area. In 1994, land was bought and/or expropriated by MINAE to expand the National Park. Peasants who had organized their lives by clearing land for agricultural production and pasture around the Arenal Basin were thrown off the land. Some peasants' lands were actually bought. In those cases, the price offered was not surprisingly low. Only 54 per cent of the landowners were paid, even though, the Costa Rican Hydro Institute (ICE), which is officially in charge of the Arenal Basin, gave MINAE *colones* 200 million in bonds to pay for the expropriated land (Obregon, 1999). MINAE and its police (Control Unit) expelled the families from the land. In Costa Rica's Supreme Court (Division IV of the judicial system) an *injunction (recurso de amparo)* reports heavy losses by *campesinas/os* who lived in the Basin area of ACA-Tilaran. They lost land, pasture, houses, dairies, and roads. Former property owners have become hut renters (*ranchos*) or slum inhabitants (*tugurios*). The personal effects of the *campesinas/os*, such as cars and small electrical appliances, were taken by the commercial banks when they could not afford to pay their loans (Monestel Arce, 1999). When, in desperation, some of them returned to their land to plant yucca, beans, maize and other subsistence foods, they were declared to have broken the law and some of them were thrown in jail (*Siete Dias de Teletica*, 1999).

After organizing the biological corridors, the major marketing achievement in Fortuna was the link of tourism with wildlife areas. As the Arenal volcano is the main attraction, the Arenal Project provided the money to build the infrastructure needed for tourism in Fortuna.

In February 1995, the National Park begun to charge fees. In the beginning, nobody wanted to pay fees. To make them pay fees, we closed the volcano's four entrances, leaving open and controlling one entrance. The entrance fees provided washroom, garbage collection and walking paths for tourists. (Jimenez, Summer 1998).

To increase fees in the Arenal Volcano National Park a look-out point was built, more walking paths were opened, and better water and electric services were provided. A visitor centre and administrator's house were also built.

The visitor centre will have three showrooms: 1) INBio and its specimens; 2) the National Vulcanologic and Seismologic Observatory (courtesy of the Smithsonian Institutions) that will monitor the volcano activities; and 3) display of SINAC's (Sistema Nacional de Areas de Conservacion) information of ACA's geology formation and a scale model of Arenal Volcano National Park. (Jimenez, Summer 1998).

The development and expansion of the Arenal Volcano National Park was influential in the transformation of Fortuna area. Rogelio Jimenez, Director of the Arenal Volcano National Park, states: "Before the category changes, the Arenal volcano had already been sold as a product of the area, but to sell the Arenal Volcano National Park was a different thing. We received a donation of two million to sell the image" (Jimenez, Summer 1998).

The marketing of Arenal Volcano National Park was done in association with some hotels and restaurants. The market is internalized in the operation of the national park in three ways: a) by selling oxygen produced by the trees of the park—industrialized countries promote trading credits and compensation for the CO² that the forested areas produce; b) by marketing biological diversity—there is a biologic station in Cerro Chato, located within the National Park, where an INBio parataxonomist is making an inventory of the park's species; c) by collecting entrance fees—between January and July 1998, Arenal Volcano National Park collected 17,000,000 *colones* (CDN\$95,000) (Jimenez, Summer 1988).

According to the Jimenez, the market success of the Arenal Volcano National Park could end because the daily fumes and lava activities of the volcano have been progressively reducing. That preoccupation resulted, in the words of the director, in a proposition to open the Arenal basin for eco-tourism. Thus, to do so, the park management dug a ditch to stop the community users, and it is developing a camping trail, fishing programs, and a tour for bird watchers. The Arenal basin is the main area that the Arenal Project and ACA-MINAE were supposed to protect.

b. Rio Fortuna Waterfall management (Catarata de Rio Fortuna). The participation of some members of Fortuna in conservation is limited to the administration of Rio Fortuna Waterfall. The waterfall has a height of approximately 38 metres. The *Asociacion de Desarrollo Integral* (Integral Development Association) received a donation of c/.1,000,000 (CDN\$ 5,600), from the Arenal project to build a 70 metre-path which links the bottom of the waterfall with the visitor centre. Jimenez comments:

For three years the Association did not pay a cent to the water provider, namely the National Park. But now the Association has built a visitor centre and an agreement was reached between the National Park and the Association, which pays 50 *colones* (US\$ 0.25) to the National Park for each visitor [the entrance fee is US \$2 per visitor]. (Jimenez, Summer 1998)

Asociacion de Desarrollo Integral-La Fortuna is in the hands of the members of the party in power (national politics) who have investments in tourism. The Association joins with MINAE to patrol, to report on the use of the area by community members, and to apprehend those who do not pay entrance fees.

D. Conclusion

The chapter shows the role of debt-for-nature investment as the promoter of IMF and WB policies. WWF-C is an efficient manager that built infrastructures, created clients, sub-contracted other entrepreneurial, and organized confidence for the transnational corporations (TNCs). However, WWF-C was, for the most part, extraordinarily successful at organizing its own "economic development" because together with the PROACA project, it can now patent anything it finds in the jungle.

Chapter Six

The Arenal Project, Phase II, 1996-2000 Fortuna-Priority Working Unit (PWU), Background and Context of the Abanico Medicinal Plant and Agriculture Project (Commodification of Nature and Human Nature)

The information presented in this Chapter was collected mainly from participant observation at the *El Albergue La Catarata* in Z-Trece where I lived for most of the period of my field work in Abanico, and from in-depth interviews with three Fortuna Priority Working Unit (PWU) members, and five community members as well as numerous informal conversations with local community members. The generosity and support of all these people is much appreciated. Where I have described their personal behaviours or cited them by name, I have done so with their permission. In some cases, however, I have chosen to refer to them with a pseudonym in order to protect their privacy.

With respect to the statistical data, all the figures were compiled by me from data obtained from the *Caja Costarricense de Seguro Social* (Costa Rican Social Security) offices in the city of Fortuna. Demographic information was obtained from Fortuna Priority Working Unit's research on conservation strategies and sustainable development, published in their catalogues in their office library in Tilaran.

A. Initial Experience of the Researcher in Fortuna

A woman doing research in a foreign country was a curious phenomenon for the local people. In Abanico, a small town, I was perceived as a good person who was interested in helping women's groups "*hacer el bien.*" I had no difficulty at all in becoming part of Abanico's community even though I was only the second foreign woman to ever visit the area. The first woman visitor was a Peace Corps Volunteer, who had organized the group the Grupo Ecologico de Mujeres de Abanico (GEMA). However, in Fortuna (the city), most men speculated about my marital situation. In a society dominated by *machismo*, a woman travelling alone is not well-received. Sexism was openly expressed. I was explicitly told that

Costa Rican men would never think of the possibility of letting *their* woman to travel alone to San Jose, let alone to a foreign country.

1. Finding a Home

In Chapter Five, I mention my introduction to Oregano,¹⁰ a member of the *Grupo Ecologico de Mujeres de Abanico* (GEMA) (Abanico Ecological Women's Group), at a workshop organized by the Arenal Project, with whom I spoke about my research interests. I had hoped to live in Abanico, where the micro-enterprise Abanico Medical Plants and Organic Agriculture is based—which became the focus of my study as a result of my fortunate acquaintance with Oregano—however, for many reasons, it was not possible.

I had originally arrived in Abanico on June 4, 1998. An agronomic specialist from the Ministry of Agriculture and Livestock (MAG) drove my new friend, Oregano, and I to Abanico. Oregano lived in Abanico. I joined the two at the meeting that Fortuna-Priority Working Unit (PWU) was hosting in the hotel, *Albergue La Catarata*, where I was staying. After the meeting, we left for Abanico. The agronomic specialist from MAG drove for a time on paved road and then on a gravel road for even longer. It took us almost an hour to get there. As we approached the town, he asked me if I had ever been there before and I answered “no.” He made no comment. Later he told me that he was concerned with the difficulties of rural life. Rural areas are plentiful in flies, *zancudos* (something like a mosquito), mosquitos, birds, frogs, snakes, lizards, both indoors and outdoors.

By 8:00 p.m we arrived at Oregano's house. Sitting in the living room and around the television was her family (father, mother, sister, and one brother) and a visitor (the father-in-law of the second youngest son in the family). They were watching something that I could not distinguish because the image on the screen was very blurred; however, they seemed to follow the plot of the film with numerous comments. Oregano's introduction was: “This is

¹⁰ One of the members of the *Grupo Ecologico de Mujeres de Abanico* (GEMA) (Abanico Women's Ecological Group).

Ana, she will be living with us for a while.” The surprised look on the faces of the family, even though the lights were not on, made me realize that she had not told them I was moving in before-hand. But all of them welcomed me saying, “the house is small but the hearth is big.” I introduced myself and watched the film with them.

When the film ended, Oregano asked me to follow her to the bedroom which was three metres by three metres, and contained two single beds. She asked me to leave my belongings outside the room because there was no space for them in the bedroom. That first night was miserable because of the swarm of *zancudos* and mosquitos puncturing my legs, arms, and face. Close to daybreak, I decided to use my sleeping bag for protection from the onslaught, but when I woke-up at 7:00 a.m, I was suffocating from the heat. It was 30°C.

The next day, during breakfast I offered to pay the matriarch of the house, an 83-year-old woman, c/2,000 per day (CDN\$11.20) for room and board. She answered, “that is very good. If you want you can pay me less.” I said my offer was fair. I also told her that I was thinking of staying a month-and-a-half. I saw her beautiful face light up. My stay was going to give her an income that she would not have been able to obtain in other circumstances.

After breakfast, Zacate Limon,¹¹ Oregano’s sister, who is also a member of GEMA, was going to sell small packages of medicinal plants in Ciudad Quesada. Ciudad Quesada is the capital of the Canton Region. I volunteered to accompany her. In order to catch the 8:00 o’clock bus, on the main road, we had to follow the gravel road out of town. It was a 40-minute walk (not easy, either). We arrived at the bus stop early and waited ten minutes. The sun was intense in the small bus shelter built with corrugated iron. The bus arrived at 8:00 o’clock sharp, and in one hour and a half, we arrived in Ciudad Quesada.

Zacate Limon delivered the plants which had been ordered a month earlier by a health food store, and then we offered the products to other neighbourhood health food stores. We spent the whole day selling plants and made c./7,000 (US\$28). Returning home was more difficult

¹¹ Another member of the GEMA group.

than leaving. There are only three buses scheduled for that route. In order to arrive home before 6:00 p.m (there are no street lights in Abanico), we had to take two buses and we spent five hours making bus connections. We arrived just before dark, at 6:00 pm, very tired. I could not help but think about how much time we wasted in order to sell the medicinal plants in this way.

In Ciudad Quesada, I bought some netting to use as a mosquito net, thinking I would sleep better. However, sleeping the second night was more difficult than the first. I felt that the swarm of *zancudos* and mosquitos had increased. In addition, the little boy next door house cried the whole night. That was my second night without sleep. The next day I learned that the little boy was the grandson of the family. The child was born with heart disease and after many operations was starting a new stage in his young life. Talking with the boy's father, I learned that he was suspicious that chemicals played a role in his child's sickness. He was afraid and worried that his work as a labourer in a *finca* where he used to spread chemicals may have contaminated him and harmed the fetus his wife was carrying.

Sleep deprived and with no table to write on and no space to go to think and plan the work I needed to do, I simply learned to follow the rhythm of the family. The day started at 5:00 a.m. The breakfast table was set by the women at 5:30 while the men got ready to work in the field. While the men were in the field, the three women of the family, and myself, had breakfast and talked for a bit. After breakfast, the women went to harvest the *finca's* medicinal plants that were ready to be cut, and then returned to complete their domestic chores (cleaning, washing the clothes, cooking). By 9:00 a.m, the men were back home for a snack and a drink, and then were away again until 11:30 when returned for lunch. "Every thing must be ready when they come back because they are tired," the mother said. After lunch, the men rested until 1:30 p.m. while the women cleaned and washed the plates. The men went back to work until 4:30. By 5:00 p.m., after a shower, the men were ready for supper. After supper, the women washed and cleaned the kitchen. By 8:00 everyone was asleep.

I was in trouble. I had no place to work and I had to go to sleep by 8:00 p.m. I realized that my living conditions were not facilitating the research and I had to decide whether to move and where. I was worried about the arrangements I had made with the family and breaking my commitment. However, they also were aware that I needed some extra space. They tried very hard to make new arrangements in the house. They let me use their son's bedroom, the only room where I could have some privacy, while he was moved to sleep in the living room. The new bedroom had a big bed and an old, wooden sewing machine that had a little room I could use as a table to write on. Things looked promising. I was certain that I would sleep well because the room was fairly isolated and because I could work until late. In addition, I had installed my mosquito net. By 10:00 p.m I went to bed. Unfortunately, this night was worse than the two nights before! I was attacked mercilessly by all kinds of insects! In the morning my arms and legs were full of bites. At that point, the family noticed that something was wrong because they could see hundreds of small insects flocking around my body, even when I jumped around, moved, or sat beside the fan. By then I knew I had to move because I afraid I might my catch *dengue* (a serious and potentially fatal infection caused by mosquito bites which had recently broken out in Costa Rica). I could easily be bitten by one of the carrier insects and that would be the end of my research.

The house in Abanico was big enough for four people and we were eight sharing the tiny space. The house had one bathroom and no ceiling; therefore, the heat was excessive during the day and the *zancudos* ruled at night. But emotionally I felt secure with the family. They were warm, caring, and incredibly happy, even though a rigid sexual division of labour was in place. That family was the perfect place to be: two women of the house are members of GEMA and they have the biggest area in the *finca* for medicinal plant cultivation (1,500 square metres). All the family are involved in the production of the medicinal plants. One woman in the family is very actively involved in community issues and in pursuing and acquiring the knowledge needed to be a good medicinal plant producer. The family is considered, by the NGO funding the project, the best producer of medicinal plants.

One particular incident, however, facilitated my leave without remorse, one that reminded me of Latin American *machismo*. One day, after lunch, the women of the house and I were

talking about the medicinal plants when the second youngest man of the family ordered his sister, Zacate Limon, to get him a coffee. I told him that we would be very grateful if he made coffee for us all. He went to the kitchen and brought a bag of ground coffee which he placed on the table laughing, "Here is your coffee." Everyone else laughed, but I was upset. I replied, "Tomorrow, at lunch, you will have raw rice and beans on your plate." This made me think about the difficult situations ahead. In Costa Rica, many men suffer from *machismo* and, in general, women are subordinate to the men in their lives. Women see men as the main wage-earners and perceive what they themselves contribute as a merely complimentary activity, a position not disputed by any of the men. Zacate Limon said, "His work in agriculture provides us our means to eat, because the medicinal plant production is not enough to sustain even one person." The division of labour in the *fincas* dictates that the men work in the fields (planting and tending to food crops), while women are relegated to household duties, such as cooking, cleaning, laundry, raising children, taking care of the elderly members of the family, and serving coffee on time (at least four times a day). On top of this, they are required to cultivate, and harvest, the medicinal plants. I told the family my fear of catching *dengue* and made my decision to move to *Albergue La Catarata* in Z-Trece.

The day before I left, the sisters organized a farewell for me. A friend of theirs (Jose Antonio) took us to swim at the volcano hot springs. Before that, we went to see the Arenal Volcano National Park which, unfortunately, was hidden behind clouds. I did, however, see the huge stones still standing around the volcano that erupted in 1968 and was responsible for the death of more than 80 members of the Arenal village. That night, the father played the guitar and we all sang old Latin American songs.

Nine days after I arrived in Abanico, I set up a base in *El Albergue Eco-turistico La Catarata* in Z-Trece, a small town near the city of Fortuna. This particular hotel is a micro-enterprise set up by the Arenal Project, and to this day is a show case of a successful eco-tourism experience sustainable development project. I spent my days, commuting between *Albergue La Catarata* in Z-Trece and Abanico. It was a 35-minute walk from the *Albergue* to the main road, a 15-minute walk from the main road to the city of Fortuna, a 20-minute bus ride on the highway from Fortuna to Chachagua (12 km), and a furthermore 45-minute walk along

the gravel road into Abanico. This meant almost four hours of travelling time, back and forth, every day.

2. Research Community Setting: *Albergue Eco-turistico La Catarata* in Z-Trece

I spent 45 days in 1998 and 45 days in 1999 in *Albergue Eco-turistico La Catarata* (hereafter *Albergue*) at the base of the active and famous Arenal volcano. The first week was the most difficult. The vision of the volcano throwing red stones, day and night, made me feel insecure. I measured the time involved between the *Albergue* and the main road just in case I needed to leave the area in a hurry. But then I learned that if the volcano erupts violently there is no hope of survival; lava travels too fast. I investigated the safety measures in the town and I learned of on the existence of an observatory built to watch the volcano which was ill equipped. I was told that if the volcano were to become more active than usual, a message is broadcast on the radio, but the people working at the *Albergue* do not have radio. However, they say animals are the first to notice any odd volcano activity; therefore, all I needed to do was learn the sounds animals make when they are frightened!

For few nights I could not sleep. I had a flashlight, my personal documents, and all my work stuffed into one bag, ready in case I would be forced to run. My fear of the volcano reached its peak when one morning I woke up at 3:00 a.m and could not fall back sleep because Ines's dog (one of the women that works in the *Albergue*) barked continuously for over an hour. I thought the barking was a sign of imperceptible volcanic activities that would soon surprise everyone. When the sun came up around 5:30, I went outside and was startled by the sound of lions and/or tigers roaring, which I assumed had been produced by the volcano. The sound was magnified by the forest surrounding the volcano. The sound penetrated my heart and my breathing was altered. I raised my head to look at the volcano, but a huge cloud obstructed my vision of the volcano's peak. I thought, this is the time to be alert; however, nothing happened. Over time, the volcano lost its power to frighten me. For few days, I kept asking Ines to remember July 29, 1968, the day the volcano erupted and killed the villagers living in the surrounding area. After I had earned to live in peace with the volcano, Ines finally asked me: "Why do you want to know more about the volcano. You must believe that

nature protects you. That is how we live here.” I decided to trust the volcano since the Z-Trece community felt protected by mother nature. However, as a foreigner, I perceived the volcano as something that threatened my life and the community life. Most mornings I woke up and continued to hear a sound that I perceived as the roar of thousands of wild animals running. Since I was living not far from many cattle ranches, I began to think that the roaring sound was emanating from the movements of the cattle. In 1999, I finally learned that the sound I perceived as a roar of wild animals coming from the volcano were the roars of Congo monkeys!

Albergue La Catarata is a community micro-enterprise project managed by five *campesina/o* families. The *Albergue* is built on less than two hectares (ha.) and includes eight bungalows with 32 beds. The backyard has a butterfly-house, numerous orchids, *zoo-criadero* of *tepezquintles* (a small zoo with a few animals), and an organic vegetable garden for the use of the *Albergue* as well as an area cultivated for the production of medicinal plants. The *Albergue* is funded by the Canada–Costa Rica debt-for-nature investment and is considered an ongoing successful sustainable development project.

The *Albergue* is located in the middle of the rain forest in Z-Trece. Z-Trece is a small town near the city of Fortuna. The city of Fortuna is about three minutes by car from Z-Trece. The city of Fortuna is a part of the Tilaran, San Carlos, and San Ramon *Cantons* (or regions). Tourism in Fortuna is one of the most important sources of income for the region and the Arenal Volcano is one of the most visited areas in Costa Rica. Tourism in Fortuna new; it started on 1992, after the Earth Summit.

Z-Trece was originally a *finca* whose branding iron was Z-13. The town was organized in 1983 as a shanty town by the *Banco de Costa Rica* (the Costa Rica Bank). The town was established in a similar way as many other Costa Rican small towns. Landless peasant invading *haciendas* (large *fincas*) take a piece of land to build their homes and their livelihood. The government, through the *Instituto de Desarrollo Agrario* (IDA) (Institute for Agricultural Development), buys the conflicted land and divides it among the landless people. People who get the land have 15 years to pay the requested price to the government.

In Z-Trece, IDA bought the land and divided it into 58 small holdings of 3.5 ha. Peasants from Naranjo, San Roman, Palmares, Cartago, San Carlos, and Tilaran were the first inhabitants.

Z-Trece is located 350 metres above sea level, at the foot of the Arenal Volcano. "The average temperature is 28°C. Humidity is 80 percent. Precipitation is 3,500 to 4,000 millimetres per year. There are between four and five hours of light per day and because of that plants do not grow fast and the trees do not produce fruits. In addition, the topsoil is volcanic (Alfaro,1998). The main attraction of Z-Trece is the Arenal Volcano which is an active cone at an elevation of 1,633 metres. The volcano has four craters that erupt 24 hours a day, a spectacular show of nature.

Since 1992, when the Arenal Volcano became a tourist centre, the Z-Trece community began to change. During the last five years in particular, many of the original owners who received land from IDA sold their properties because they were desperate for money. Some owners have two, three, or four parcels of 3.5 ha. (originally each parcel of land had 3.5 ha.). Many of original land owner's were reduced to living on a tiny portion of the land they once owned. Many tourist centres and resorts have, and continue to be built, in the area and the price of land has risen ten times. In 1998, only 24 of the 58 families who were given land in Z-Trece continue to live in the town. Z-Trece is currently becoming a popular place for Nicaragua who have relatives in the area.

With the debt crisis, the government attempted to introduce non-traditional agriculture or agriculture diversification in Z-Trece. Agriculture diversification does not abandon the specialization or monoculture production, it only adds the cultivation of exotic species with the aim of exportation. These projects, based on the green revolution ideology, require huge investments for the establishment of new kinds of products in modern technology, in fertilizers, and in pesticides. Peasants living in Z-Trece, thus, become dependent on loans. The loans must be paid with the harvest. Poor peasants, every year, are convinced to participate in the new production of new products proposed by the government.

In 1994, the majority of the Z-Trece community produced *cacao*, *cardamomo*, and ornamental plants because the government policies promoted non-traditional production. The government promised export for those products and we saw a possibility of obtaining some money to survive. We all got credits to buy fertilizers, agro-chemicals, and technical assistance from the banks. The seeds were certified by CATIE; they supposedly had studied the soil of the area and supposedly produced a hybrid seed for this area. The seeds were supposed to give a high quality of product and more products per hectare. However, after months of hard work, production was low and it soon became apparent that no-one could survive with that, nor pay the loan. We all had to mortgage our land. (Rosita, Summer 1998)

In 1994, when the Arenal Project arrived in Z-Trece, the *campesinas/os* were in *ruins*. The WWF-C, responsible for implementing the Arenal Project, made initial with some of the members of the local by hosting various workshops where the goals, objectives, and purposes of the Arenal Project were communicated. Z-Trece families were despairing, and at first, all the community members attended the meetings. Women, like Rosita, never had the time to chat with neighbours because she has a large family and a *parcela* (small piece of land) to work for the family's subsistence. She said she had no time for outside relationships. It was at the first meeting of the Arenal Project that the women and men of Z-Trece learned that every family in the area was experiencing the same crisis. Individualism, Rosita said, impeded everyone from seeing the fact that they were sharing the problems.

The Arenal Project informed Z-Trece community members that whatever agricultural project they might be interested in pursuing, they would provide the financial support. After that first meeting *campesinas/os* were excited about what they heard, but, when the individual families learned they would have to work together on one project, half of the people left the meeting.

Individual families made projects to use their own plot. When we learned that the Arenal Project was going to support just a common project many became discouraged, because we never worked in groups, nor in same projects. Many members left the group, but 19 persons stayed. The project proposed to reflect on the environmental situation we live working with agrochemicals. (Rosita, Summer 1998)

The 19 members of Z-Trece that remained analyzed their local situation, the possibility of organizing, the kind of production they might engage in, the environmental problems they were already facing, and the potential for community development. They made a decision to link with the Arenal project. In Z-Trece, the Arenal Project paid attention to the environmental problems associated with the heavy use of agrochemicals and soil conservation to sustain agricultural productivity.

We were told to think about our land that uses agrochemicals, we were told that agrochemicals are eroding our soils, contaminating our water (in Z-Trece there are many watersheds and Z-Trece water is not treated); we were told about the need to improve our quality of life. But, most important the Project proposed to include women. (Rosita, Summer 1998)

The Arenal Project was, for the most part, concerned with educating rural peasants in land conservation. Agrochemical production and deforestation were defined as highly reprehensible activities.

The Z-Trece group's first project was organic agriculture. Members learned about soil life and functions as well as the use of natural flowers and plants (*gavilana*, garlic, hot pepper, *madero negro*) as repellents and composters. At the end of the training, the Z-Trece group rented a two-hectare plot and started cultivating organic lettuce, cabbage, chile. The produce was sold on the streets and in the restaurants of Fortuna. According to Rosita (1998), the experience convinced them and a few neighbours to produce food products without using agrochemicals. The experience also was defined as stressful, by Julio, a member of the group. He said, "Only few of us had the burden of production and commercialization, while others were embarrassed because they were forced to sell our products on the streets; not all of us are *campesinas/os*."

The group evolved from organic agriculture producers to became an eco-tourism enterprise when they set up the *Albergue La Catarata*. Rosita explains: "The goal of the group always was to work in tourism because of the tourism boom in Fortuna. Working in tourism meant that we could have permanent jobs. We then applied to the Arenal Project for a loan" (1998).

Albergue La Catarata, as micro-enterprise, is the success story of the Arenal Project. It is one of the three eco-tourist lodges financed by the Arenal Project in ACA. The project *Albergue La Catarata* was developed with “full” attention (unlike other projects that may receive “middle” or “low” attention (Ulloa Gamboa, 1996b). This meant that the project received all the financial resources and support it needed.

The understanding of sustainable development in the ACA context is that the benefits of micro-enterprise should not be limited to profits, but should include conservation efforts. But, the aim of sustainable development in the context of the Arenal is to be linked to the international market as economic monetarist policies demand. Isidoro is the administrator of the Arenal Project. He declares

Economic sustainability is the first criteria in maintaining the existence of organizations, particularly now when we are dealing with high competitiveness in a globalized economy. The projects we finance receive technical and financial support to make organizations financially viable (self-sufficient). Economic sustainability is the first criteria to maintain the existence of organizations, particularly now when we are dealing with high competitiveness in a globalized economy. (Isidoro, Summer 1998)

The Arenal Project maintains that *Albergue La Catarata* is a micro-enterprise that should not be limited to earn profits, but to encourage captive breeding of endangered wildlife species for release into protected areas and for selling in restaurants; to develop a botanical garden and butterfly farms; and to cultivate and process medicinal plants.

The Z-Trece group had difficulties at the beginning, but the members are grateful for having received a loan from the Arenal Project. The Arenal Project and Costa Rican government institutions provided the group with training, along with technical and organizational follow-up. In addition of the loan of c/20,000,000, the Arenal Project also provided donations on two other occasions: one donation was to provide the *Albergue* with a *zoo-criadero de tepezcuincls*. The *zoo-criadero of tepezquintles* is a showcase of wild animals other members of the local community hope to replicate, particularly the hunters. The Z-Trece group members have significantly improved their education and they have received training

in a number of different areas. For instance, a professor of the *Universidad Nacional* (National University) spent a year teaching the group how to care for the *tepezquintles*. Members of the group also received training from the Arenal Project in customer relations, restaurant management, client service, and computer skills.

The Z-Trece group also received donations from the *Instituto Mixto de Asistencia Social* (IMAS) (Institute of Mixed Social Assistance) to finish two more cabins and furnish them. When the number of cabins at the *Albergue* increased, the group had the opportunity to negotiate the sale of space in the hotel with travel agencies. A further donation from IMAS was used to install the butterfly-house. The butterfly-house was another educational activity for the group. *Hospedero* plants feed the larva until they became pupas. It is at this stage when members of the *Albergue* sell the pupas to the international markets.

Every week we collect the pupas in the *puparia*. We place the pupa on top of cotton, inside a box. In Fortuna, a collector takes them to San Jose and from San Jose they fly to United States and England. Prices depend on the species, they range from US\$1.75 to US\$4. In the past we use to sell around 60 butterflies per week. (Ines, 1988)

Costa Rica is one of the biggest exporters of butterflies, particularly for use in weddings in the United States. The launching of butterflies has replaced the throwing of rice at the end of a wedding ceremony, and is unlikely to cause the profusion of civil suits arising from wedding guests slipping on the rice. (I had the opportunity to read this in an article on an airplane coming back to Toronto from Costa Rica!)

From Holland, the Z-Trece group received donations to build a *secador* (a green house) for the cultivation of medicinal plants. They also were able to acquire grinding machine for the pulverization of the herbs.

Machismo was a problem in the group. Some of the women in the project could not attend training sessions out of town because frequent travel conflicted with their families' expectations. *Machismo* among members was also a problem, but it was quickly overcome. I remember when we distributed the work. Men who never touched a broom, nor washed the dishes, were

named kitchen helpers. This project successfully changed men's role. Now they cook, clean, and do all the jobs that men used to think of as only women's jobs. (Rosita, Summer 1998)

In 1999, during my second visit, *Albergue La Catarata* was finally established with five permanent members. Donations from different sources permitted the *Albergue* to survive. The Arenal Project and the government institutions successfully helped to introduce the Z-Trecec group into the tourism business to serve the increasing numbers of international tourism consumers. But, it is the free (unpaid) labour of some of those members that continues to sustain the project. Four years later, three members receive a salary for five working day, while the woman, chef of the kitchen, receives a salary for two days and works three days for free. One member also provides one voluntary work day weekly.

In 1999, I also noticed that the medicinal plant plot at the *Albergue* was only growing *sabila* (aloe vera). It is used as raw material to produce shampoo. Shampoo production is owned by only one member of the *Albergue* who shares the profits with one other member of Z-Trecec community who is responsible for the processing. I also noticed that the *secador* and the grinder were no longer being used. The production of butterflies for the US market had almost completely stopped simply because there was no one at the *Albergue* to do the work.

3. Community Organizing

My community organizing in *Albergue La Catarata* can be summed up as follow. Since the day I met the families who work at the *Albergue*, I became an important part of these families and they, too, become important in my life. I lived with them for 90 days. In 1998 and 1999 they helped me in my daily survival. I learned about the problems that each of the members of *Albergue* faced as I spoke with to them one-on-one. The first thing I noticed was that they were not friends; they could not be friends because there was a power imbalance in the division of the business and labour required to run the hotel. In 1998, the *Albergue* had six members, but only few of them really worked on the project. The most disadvantaged in the group was a Nicaraguan couple who worked 24 hours a day, seven days a week. Two of the other members had shifts work from six to eight hours daily, while one member paid c./2,000

(US\$8.00) a month to be considered partner in the business (his presence was not required at the *Albergue*). Another member was a high-school student who only worked during school vacations. The Nicaraguan couple left their three young children (10, 11 and 13 years old) to fend for themselves because the father had administrative responsibility for the *Albergue* and he was completely occupied with the hotel and restaurant's kitchen. They were forced to supervise their children with repeated telephone calls. The personal sacrifice of this particular couple made the *Albergue* function. I heard complaints from every side and I tried to mediate.

In order to discuss their disagreements, I created a favourable atmosphere for talking and sharing: (1) by cooking. I cooked Mexican, Peruvian, and Canadian cuisine every Saturday and encouraged them to eat together; (2) by common activities. I asked them to show me the surrounding areas on Sundays. However, this was only possible when there were no tourists at the *Albergue*. If there were guests in the hotel only myself and two women from the group, together with their families, had Sundays free to explore our surroundings.

The day I left, the workers of the *Albergue* and I were sad. On the last day, I delivered the results of my research at a small conference attended by the staff and faculty of Peace University, the Latin American students who were on the project's site, and the members of the *Albergue*. After lunch, Celso Alvarado, MINAE's biologist, also presented the results of his work. Later he and I drove to Tilaran. Before we left Z-Trece, he invited me to see his butterfly house. This MINAE official and two other men had built a small office to reproduce and dissect butterflies surrounded by the most exotic and rare local varieties of plants, trees, medicinal plants, water fountains, and *humedales*. The butterfly house had more than 70 kinds of living butterflies and an impressive collection of dissected night butterflies that have wings resembling the face of an owl. The butterfly house is visited by students of the area and the owners are proud of their achievements. They also classify butterflies for INBio.

In 1999, when I returned to Z-Trece, I found that the people working at the *Albergue* had better relationships and more organized schedules. Rosita was the administrator; she was showing leadership.

4. Tourist Experience/Observation

The day I arrived in at the *Albergue*, I was offered a table and a chair which were placed on the sidewalk outside the bungalow I rented. While I worked, I could see the activities of the Arenal volcano. During the day, I watched the fumes and some nights I saw fire on the top of the mountain. Every night I woke up hearing strange roars. I felt that the volcano watched me and I watched the volcano.

The volcano, from the side I could see, has a green face with huge striations, which were produced during the July 28, 1968 eruption. To get to know the area, I organized a tour to the hot springs with the *Albergue*'s women. Ines and Marina, who are owners-workers on the project were delighted with the idea of exploring our surroundings. Since they work from seven days a week, they did not have time to get to know the area where they live and work. They decided to discover the area with me and simply for that purpose they stopped working on Sundays. In the beginning, they had a lot of trouble finding the time for adventure!

Our first trip was to *el Tabacon de los pobres*. *El Tabacon de los pobres* is a ten-minute walk from the Tabacon Resort and it is free. (The Tabacon Resort is an expensive hotel that uses the volcano hot springs for tourist purposes. Tourists pay US\$15 to use the hot spring swimming pools in the resort.) *El Tabacon de los pobres* has small, free, clean-water hot spring even though its surroundings are not very clean and garbage is littered all around it. The temperature is 39°C. This area is visited by the locals who believe that the volcano hot spring water improves the health, particularly to those suffering arthritis, stress, and any number of various illnesses. We spent an hour and 15 minutes in the hot spring and then walked to the Tabacon Resort to watch the volcano's activities. Sitting at the bus stop, we observed huge fireballs flying from the volcano that stopped within 500 metres of the hotel and the road where we sat. It was impressive.

On our second trip we climbed the Cerro Chato, an inactive volcano in the Arenal Forestry Reserve. Cerro Chato is not yet closed to the community. Cerro Chato was active hundreds of years ago. Its peak reaches 1,100 metres. Cerro Chato has a fragile ecosystem. After it

erupted, the crater became a lake. The Arenal volcano was born not far from Cerro Chato's crater. Afraid of the snakes (there are a variety of poisonous snakes, some without antidote), I traded my running shoes for boots. We walked three-and-a-half hour, from the *Albergue* to the peak of Cerro Chato. We walked through green pastures until we reached the narrow path that started our climb. The path was full of roots, small and big hollows, tall and short trees, and covered with leaves. Because of the rain, the jungle is always gloomy and dark. It is also dense, very green, and with many different kinds of flora. The sun does not penetrate the jungle. Close to crater's lake, we found strange black spines circling some of the trees. Oddly, the black spines (epiphyte and mushroom) took the shape of various animals and the trees seemed weak. The highest part of the mountain is under almost permanent drizzle and cloud and the trees are small and thin. The lake is situated a 15-minute below the lip of the crater. Its colour is pale green that contrasts with the deep green of the forest. Folkloric knowledge says that the peak must be reached by noon, because by 2:00 p.m. it is important to be out of the jungle, otherwise it becomes dark and risky.

Our third trip was to the Tonjibe-Palenque Indigenous community. This is a very poor and very small Indigenous community where the selling of hand-made crafts is the only livelihood for its people. The trip was disappointing because we could not talk with the people or take pictures of them. Since the community has become an eco-tourist area, the inhabitants charge US\$2 per photograph. The Costa Rican government abandoned the Indigenous People arguing that they can manage their own land if they do not want to put their land to work for the market. The Indigenous People do not get a cent from the government. To make their living in a country where everything has a price, the Indigenous community rent their land to rice producers who spread pesticides on them using airplanes. Extreme poverty is widespread.

Our fourth visit was to the *Cataratas de Rio Fortuna*, already described in Chapter Four.

Since I arrived in Fortuna, I decided that my last visit was going to be the Arenal volcano. Finally, the day arrived. I was going to face the object of my endless preoccupation. The volcano is the giant mountain I could see everywhere I went, even when I travelled the area

for hours by bus. The volcano attracted me but, at the same time, it scared me. Everyday I prepared myself to watch it explode. We could walk straight to the volcano from the *Albergue*, but the foot of the volcano on the side of the *Albergue* is used as pasture, and therefore not easy to walk on. In addition, that side is covered by trees. To enjoy the magnificent volcano and touch its warm soil, it is necessary to climb the other side. I was prepared for the trip. I got a map from the Ministry of Environment (MINAE) weeks ahead (there is no map at the Arenal Volcano National Park). At the entrance to the Park there is a guard who collects the fees. We paid US\$7 per foreign person and US\$1.66 for locals.

In the Arenal Volcano National Park, there are no organized activities. Private tourism agencies organize groups depending on the interest of the tourist group. For instance, they have excursions for birdwatchers, excursions to the hot springs with breakfast, boat tours, etc. For our group, our map acted as the guide. On the map there were five paths (*senderos*) to choose from : *Sendero Principal* (main path), *Las Heliconias*, *El Sendero Natural Las Coladas* (natural path), *Sendero Los Tucanes*, and *Sendero de la Catarata de la Fortuna*. We chose *the Sendero Natural Las Coladas*, a two-km trail. We walked at the time when the giant volcano began to emit strong breaths. like a pregnant woman in labour. The breathing become stronger and deeper as we got closer. We were scared to death. We felt as if we were trespassing in a sanctuary. I am not a religious person but I was overcome with emotion and began to see the volcano as a magnificent, living creature. We walked in silence, trying not to wake the giant, almost reverently (and I am the most irreverent person!). The two kilometre trail took us more than 40 minutes to complete. It took so long that when we finally arrived and touched the first warm stone at the volcano's peak, we turned right around and ran back.

In 1999, we visited the Arenal Volcano again, but this time the volcano was silent. The hard breathing disappeared. I cannot explain why.

The volcano was not my final trip. My final trip was *Caño Negro*, a biological reserve where the animals and the ecosystem are untouched. In a boat that uses diesel for fuel, we travelled for two-and-a-half hours within the area. We saw hundreds of animals in their natural

settings. Monkeys swinging from tree-to-tree; white, black and zebra *garzas*, and sun worshiping chameleons were frequently spied from the boat. I took the trip with students from Peace University who were in an intensive management course (and who were present the following day at the small conference I participated in Z-Trece). *Caño Negro* became a tourist centre and it is closed to the local community because to tour the reserve, agencies charge US\$80 dollar for person.

B. Purpose of the Arenal Project Phase II

The purpose of the Arenal Project, Phase II, carried out under the debt-for-nature swaps agreement, is to secure the management process and to promote conservation and sustainable development practices in ACA. This means the Project will provide technical and financial support to local groups to establish micro-enterprises; help establish local NGOs within the structure of the Project, such as FUNDACA (which is intended to replace the Arenal Project at its completion and continue to provide loans for other micro-enterprises); implement the Land Plan's sub-programs; support the ACA-MINAE consolidation; strengthen SINAC; and disseminate the results of the ACA experience (*Propuesta*, 1996). The Arenal Project model of development management assumes that social change can be engineered, directed, and produced at will.

According to Claude Tremblay, the WWF-C acting-Canadian director of the Arenal Project:

Phase II set up a process that defines conservation and sustainable development strategies in geographic zones that deserve particular attention due to resource deterioration in use and management; a process that defines social and economic conditions of the population, associated with the maintenance of protected wildlife areas and the presence of infrastructure needed to sustain social and economic development. (Tremblay, Summer 1998c)

C. The Problematic Sustainable Development

The sustainable development of the Arenal Project's Phase II is problematic in the following areas: (1) it privatizes crucial elements such as water; (2) it transforms communities from agriculture producers to service providers; and (3) it further disconnects communities from nature.

1. Privatizing Water

During Phase II, selling environmental services was the new way to generate funds for management purposes. The macro-economic organization of the Arenal Project, during this phase, was achieved by the Lake Basin Management Plan (hereafter, the Arenal Basin Plan). The Arenal Basin Plan assigned property rights to the water in the Arenal *Cuenca* (or, basin). The Arenal basin is the main area that ACA-MINAE and the Arenal Project were set up to protect. In 1997, the Arenal Project paid a consultant to study "*La Valoracion Economica Ecologica del Recurso Hidrico de la Cuenca Arenal: El Agua un Flujo Permanente de Ingresos*" (The Economic-Ecological Evaluation of the Hydro Resources in the Arenal *Cuenca*: Water—A Permanent Source of Income). The aim of the study was to establish a value or price for environmental services, and in this particular study, calculate the value of water. According to the study, three different measures of value must be combined to obtain the total economic-ecological monetary value of the Arenal basin: first, by the capture value given to the forest's annual hydro productivity (calculated in (*colones*) c/0.62); second, by the basin's protection and maintenance value (calculated in c/0.044); and third, by the resource value when it is used as an input of production (calculated in c/2.13 per 3 cubic metres).

The argument is that the "pure and safe community water" being used by the demands of the tourist resorts is intensive and wasteful, and therefore, a price for that usage should be fixed. It is important to remember however that up until then the local was using untreated water from other sources (such as mountain streams, wells, etc.). The economic-ecological price set for water in the Arenal basin will be paid by the users, which will now also include the

local community (although their water remains untreated). The earnings from the sale of water represent a significant permanent income for ACA-MINAE as the manager of the Arenal Basin, and the “successful” privatization of water resources. ACA-MINAE (the Arenal Volcano National Park) claims to share a portion of the income generated income with the *finca* owners in the area who are to use the funds to protect any *nacientes de agua* (water sources—i.e., streams) existing on their properties (Ballestero, 1999).

In Costa Rica, there are 2,445 water systems, of which 1,662 are rural water systems administered by local and/or municipal boards. Thirty-seven percent of Costa Ricans (307,932 people) do not consume treated water. This is the case in Z-Trece and Castillo in Fortuna-PWU (*La Nacion*, 1999). The Arenal Basin Plan is certain to change the area further, but it is too early to comment on what might happen.

Economist Martínez-Alier (1996) argues that from an ecological point of view, the economy lacks common standards of measurement, because we do not know how to give present values to future, uncertain, and irreversible contingencies, and because such values depend on the allocation of property rights. Prices depend on the distribution of income and on the problematic allocation of property rights to items of “natural capital.” Future costs and benefits are very much uncertain. Thus, the measurement of present value costs and benefits will depend on the rate of discount. The appropriate rate of discount would be determined by the “sustainable productivity of capital,” but the measure of sustainability depends on the measure of natural capital depreciation and the measure of natural capital depends on the allocation of property rights and on the distribution of income. That is why measures in monetary terms are so arbitrary.

2. The Transformation of Communities

The micro-economic organization of ACA’s development management is achieved by the Arenal Project’s introduction of sustainable productive projects that offer funds not only as a way to solve economic and ecological problems, but also as the medium of their ongoing management to compensate for, and rationalize, ecological degradation. The promotion of

non-traditional export production, eco-tourism, and credit assignation based on cost-effectiveness is the sustainable development strategy. This has transformed local communities from agricultural producers to service providers.

a. Organizing local communities for sustainable development–Fortuna. In 1994, an Arenal Project study concluded that most of the people living in the area were engaged in subsistence farming and resource extraction and had little access to an outside market to generate cash income. As quality of life is measured in terms of income, individuals or families who gain their livelihood from resource extraction using the area biomass are considered poor people putting pressure on the environment which should be discourage.

In 1996, the Arenal Project completed economic management studies of the tourism possibilities of ACA's Tilaran communities (Ulloa Gamboa, 1996a). According to the specifics of the scenery, the study recommended the establishment of three *Unidad Territorial Priorizada* (Priority Working Units) (PWU). The PWUs are working committees that include various sub-committees. Each PWU is assigned a protected wildlife area where they are encourage to set up micro-enterprises.

The three PWU in ACA are:

- **Bijagua PWU** includes *Cuenca Rio Zapote* (the basin which carries the Zapote River) as well as towns and water sources in the surrounding area (San Miguel, el Pilon, las Flores, el Salto, and Zapote)
- **Rio Aranjuez PWU** is the protected area around the Monteverde rainforest (Miramar, Bajos Calientes, Cedral, Arancibia)
- **Fortuna PWU** includes the highlands of Rio Fortuna, Rio San Carlos, Rio Aguas Gatas, and the Arenal Volcano National Park. Many micro-*cuencas* are in the unit, such as Rio Burro, Rio Fortuna, Rio Burio, Quebrada La Palma, Rio Tabacon, de Agua Caliente, and Aguas Gatas. The population of Fortuna PWU is distributed as follows: the urban population is concentrated in the city of La Fortuna Centro (1645 inhabitants), while the rural population is divided among El Bosque (220 inhabitants), San Francisco (230 inhabitants), El Jauri (140 inhabitants), La Palma

(66 inhabitants), Z-Trece (420 inhabitants), el Castillo (259 inhabitants) (Ulloa Gamboa, 1996a). In El Abanico (309 inhabitants in 1998) I researched the population figures in the Chacagua Hospital and in Zona Fluca (935 inhabitants in 1999) the figures were derived from *Caja Costarricense del Seguro Social* (Costa Rican social security office).

My research took place in Fortuna PWU because the town of Abanico is home to the Abanico Medicinal Plant and Organic Agriculture micro-enterprise which is the case study of this thesis.

b. Fortuna Priority Working Unit (PWU). Fortuna PWU is a working committee made up of representatives of the beneficiary organizations (community groups), local government officers, local NGOs and the Arenal Project representative. In Fortuna PWU, a Costa Rican forestry engineer is directly responsible for supervision, technical and scientific support, proposals for cooperation and assistance, participation in ACA's Credit Committee, and plan formulation.

The Fortuna PWU working committee formulates short-, medium- and long-term working plans. The working plan is called *Estrategia de Conservacion y Desarrollo Sostenible* (Strategy for Conservation and Sustainable Development). It is used to establish programs and micro-enterprise projects that are supposed to generate conservation practices and sustainable development. Carlos Ulloa Gamboa, PWU coordinator, states that, in the initiative "government, NGOs and communal actors set up mechanisms for community direct participation in the formulation, design and execution of strategies that contribute to the better use and management of the natural resources and the quality for life of the local population" (1998).

Micro-enterprises have been beneficial for some of the poor peasants in Fortuna PWU, for example, in the hotel, inn, and restaurant services. Rosita from *El Albergue La Catarata*, a tourist micro-enterprise established with a debt-investment loan, maintains that ACA offered to poor people, such as herself, eco-friendly, economic opportunities.

The Arenal Project made two revolutions in the life of the participants of this project: first, the project persuaded us and our neighbours to learn new ways for using our lands, such as working with organic agriculture; second, we educated ourselves and improved our quality of life. Meaning not just in economic terms but in gender terms. Learning to work organically [in Costa Rica] and to work in a common project, as a group, in an individualist society is revolutionary. In addition, changing the role of women and men in our project was another revolution. (Summer 1998)

These views are disputed by Miguel Zamora, a member of Fortuna PWU, who states:

The Arenal Project selected only a few families to receive a loan. These individuals or families are removed from the community, because they become the focal point of help from different sources (NGOs and government). This separation divides community members. The Arenal Project then does not benefit the community, but only individuals who decide to go along with the vision of the project. Community problems such as water treatment, the flooding of roads during rain season, labour rights of Nicaragua migrants in packing factories, etc., are invisible. (Summer 1998).

Zamora adds that *Albergue La Catarata* was the only project that had full support from the Arenal Project and from the government. Therefore, the benefits of loans and donations from different sources at different stages of the project were concentrated on this one group while the rest of the community members were forgotten.

c. Fortuna PWU – location and resources. La Fortuna de San Carlos belongs to San Carlos Canton. San Carlos Canton is in Alajuela province, 300 metres above sea level. Its weather is tropical humid, with a rainy season that last eleven months of the year. La Fortuna covers 14,567.3 ha. (145.67 km²) and is located in the north western part of the country, between the plain coordinates in 260-275° North latitude and 455-470° West length. Water is the main resource in this area, around which many development projects are based, such as *El Tabacon* (a tourist resort that uses the hot spring waters from volcano to fill its numerous swimming pools); *La Catarata del Rio Fortuna* (another tourist resort and community project which is based around and uses for recreation a waterfall from the Cerro Chato mountain); and the Arenal-Corobici basin (a hydro-electric project). The water from the basin is also used for community consumption (although still untreated for locals) in Z-Trece and El Castillo.

Fortuna had basic services installed at different times. The first pipeline was built in 1953 and since 1992, the *Instituto Costarricense de Acueductos y Alcantarillados* (Costa Rican Institute for Aqueducts and Reservoirs) and has been in charge of the aqueducts. Rustic electricity was installed in 1951. In 1975 the *Instituto Costarricense de Electricidad* (ICE) (Costa Rican Hydro) installed the existing hydro services which are administrated by *Coopalesca R.L.*, a cooperative group. Health care was established in 1963. Public transportation is good and inexpensive (Ulloa Gamboa, 1996a).

In 1996, Fortuna PWU had 3,439 permanent inhabitants, 46.6 percent women and 53.4 percent men. Men outnumber women by seven per cent, except in La Fortuna Centro, where tourism services are located. An elementary education infrastructure exists in every human settlement; however, the illiteracy rate is seven per cent. Secondary students find it difficult to finish their education because families need the young to work in the *fincas* or as income generators elsewhere. Excluding El Abanico and Zona Fluca, Fortuna PWU in 1996 had 1,395 students enrolled in the school system, 753 (54 percent) male and 642 (46 percent) female. The school system has 62 teachers, 22.5 students per teacher (Ulloa Gamboa, 1996a).

d. The history of Fortuna. Land colonization in Fortuna started as a consequence of *latifundio* (large land holdings) of coffee producers in Meseta Central and banana plantations in the Atlantic South. Peasants were motivated by a search for an alternative to insecure wage labour in the cities. Around 1941, a new land colonization movement began in the surrounding regions of La Fortuna by landless *campesinos* from Naranjo, San Ramon, Grecia, Palmares, Ciudad Quesada, and Tilaran.

To claim right of possession, the land needed to be cleared. The value of the land was calculated by the number of trees the owner cut down, an action referred as "development." Old growth trees (primary trees) in the area were between 40 and 50 metres high. To clear the forest with axe and machete was a labour-intensive job. Cutting down a tree first at all required the construction of a three to four-metre high to climb on, because trees were too wide to cut down at the bottom. The most important trees were *guayabon*, *laurel*, *cedro*, *lagarto*, *bota rama*. *Bota rama* was the tallest of the trees. From one *bota rama* tree, a

sawmill could cut up to a dozen *tucas* (planks) (Quiroz, 1999). Most of the trees had different colours, such as *dante tinto*, *almendro papaya*, *almendro tinto*, *siete cueros*, *lagarto amarillo*, *lagarto negro*. By 1998, only two, *laurel* and *cedro*, were cultivated because of their commercial value.

Fortuna's original name was Burio, due to its closeness to Burio River. But in 1932, people agreed to change the name from Burio to Fortuna to reflect the beauty of the surrounding nature. Fortuna means feeling lucky to live in a place surrounded by beautiful mountains and rivers. Dora Hidalgo, who was born in Fortuna in 1942, states:

My grandmother was a nurse and the first director of the Hospital in Ciudad Quesada. My mother, Amelia Alfaro Rojas, was the first woman who voted for the first time in Fortuna in 1950. My father Antonio Hidalgo Quesada and my mother immigrated with a family of six children from Aguas Arcas. They invaded a piece of land in the area, then, bought almost half of Fortuna for c./400. My father started a general store (*pulperia de canasta basica*) where they sold basic food and meat. It was also a bar (*rocola*) and pharmacy. To supply the store, my father travelled, once a month, from Fortuna to Ciudad Quesada (capital city) for 14 hours by horse. Horses were an important way of travel, and all items had to be transported on horseback. Travellers used horses to cross rivers, such as the Penas Blancas river, which was high (*caudaloso*) in those days. (Hidalgo, Summer 1999)

During the 1940s, life was difficult, but nature provided most with a means of livelihood. Hidalgo stated that families just wanted to survive. In order to survive, families built community and the community permeated every aspect of their lives.

We lived like a family. Actually, we still live in Fortuna Centro like a family, because most of us are relatives. For instance, my mother attended pregnant women, my father helped anyone who required his attention. He was not a medical doctor, however, he cured snakes bites, broken legs, etc. I learned from them to help the community members. (Hidalgo, Summer 1999)

The first families in Fortuna were Marcial Jarkin, Isolina Hidalgo, Rufino Quesada, Domingo Chavez, Beto Quesada, Claudio Monje, Bolivar Salas and Vital (Talo) Quiroz. Vital Quiroz, married the first daughter of Antonio Hidalgo Quesada (Ana Hidalgo, half sister of Dora). The Quiroz family used to live in Ciudad Quesada. Vital Quiroz worked in community building, in the physical and emotional sense. He built the Church, the Pastoral Centre, the

elementary school, the first section of Fortuna's high school, and most houses in Fortuna. He remembered what Fortuna was like when he and his family first arrived. The town had a small jail where government offices were located, an elementary school with two rooms, a meat shop, two general stores, and a restaurant. The restaurant also functioned as a rooming house for visitors. Calle Ronda was the only street.

My family and I arrived in 1951. We came on a tractor that my father-in-law contracted to make a road in order to bring in the needed merchandise. From the top of the tractor we saw a road full of *charrales*, trees, and wide rivers. During the time I have lived here I have seen how rivers became *quebradillas* (small mountain streams). In less than 50 years, trees have been cut down and the area deforested. The leaves of the few standing trees are dragged away by rain. When leaves are not able to decompose where they fall, erosion of the land is inevitable (*se tuesta la tierra*). Without trees, water dries up because sand goes straight to the waters. (Quiroz, Summer 1999)

Cattle ranching and rubber plantations were the first development projects established in Fortuna. Quiroz remembers the ferocity of the clear-cutting, when areas were deforested up to the rivers to increase the size of the *fincas* in order to raise more cattle. He also remembers the scars on rubber trees to produce a kind of milk used to make bags and raincoats for horseback riding as well as for export to U.S. which used this byproduct of the rubber trees to make car tires.

When we arrived in La Fortuna, *temporals* (heavy rains) used to fall for three months and rivers would flood (*crecidos*). Cattle ranching, deforestation, followed by agriculture (rice, beans, *elote*) dried-up rivers and reduced rain. Until recently, Costa Rica never had extremely hot summers. In Guanacaste, hot weather is killing earthworm (*lombrices*) a major factor for land fertility. We are still lucky in La Fortuna, because we still have trees on the mountain, the reason for the rains. (Quiroz, Summer 1999)

Deforestation is an inequitable process. In order to clear-cut, one must obtain a licence to do so from the government. In 1990, the forestry law was amended and penalties for illegal deforesters (who do not pay fees) were increased and government control on tree felling was intensified. Community members are frustrated because they perceive the law to exist only for people with money. Poor people are prohibited to fell trees because they cannot afford

to pay for the necessary licence, but big landowners and industry (timber companies, etc.) continue to clear the forests. They obtain licences from the *Direcion General de Areas Forestales* (General Forestry Division) of MINAE in order to clear more land for agriculture production and cattle ranching. Their clear-cutting is legal, even when they are destroying the remaining forests of the area. ACA-MINAE was ostensibly organized to stop sedimentation in the Arenal basin, however, as Quiroz acknowledges:

Deforestation shrank rivers, and increased sedimentation in the Arenal Lake. I believe that soon the *Embalse Arenal* [Arenal basin] will be full of sand and agrochemicals. For instance, in Nuevo Arenal sedimentation is a fact. There are sand banks. We have a long way to walk from the Arenal Lake to Nuevo Arenal. Sedimentation forced the *Instituto Costaricesnse de Electricidad* (ICE) to buy electricity from private wind sources. (Quiroz, Summer 1999)

Environmental education promoted and funded by the Arenal Project in schools and in micro-enterprises has created awareness around environmental issues and crises. But the activities and development programs promoted by the Project actually contribute to the degradation of the environment because they are designed generate profits. The Arenal Project's reforestation education program is oriented towards large-scale tree planting in order to encourage the selling of CO² credits to industrial countries. Reforestation is also approached as a tourism attraction, and thus is oriented towards planting ornamental plants, timber trees as living fences (*rompevientos*), shade trees in pastures, coffee plantations, and fruit trees to attract birds for birdwatchers. Despite the Project's claims to restoring the environment, it is in fact unconcerned with any aspect of the environment, or nature, that is not ornamental (to appeal to tourists), or that can provide genetic material (for the scientists and academia).

e. Productive forces in Fortuna. Fortuna's land colonization progressed in connection with the establishment of cattle ranching and agricultural activities. In 1999, Fortuna PWU can hardly be seen as an egalitarian society with no difference in social status and ownership. There is a high concentration of land in the hands of cattle-ranchers, while the majority of the population are poor peasants with small land holdings. Nevertheless, the entire community is organized to produce solely for the international market.

Social differentiation among Fortuna's inhabitants is obvious. A few cattle ranchers control more land than the thousands of small-scale peasants.

In 1999, productive land can be divided as follow: 70 percent is cattle ranching, while 30 percent is agriculture. Agriculture is produced mainly in small *fincas* and almost all of them are beneficiaries of IDA. This means that the government bought the land and divided it among the beneficiaries. IDA was created to solve land conflicts. (Alfaro, Summer 1999)

The *Instituto de Desarrollo Agrario* (IDA) (Institute for Agriculture Development), responsible for resolving land conflicts, bought almost 90 percent of the land used by poor peasants (yet owned by the *latifundios*—large land holdings) in the Fortuna area and divided it amongst the *campesinas/os*. The average size of the *fincas* where agriculture is practiced depends on the time of their *denuncio*. For instance, in 1962, Abanico's peasants each received ten (ha.), but in 1980s, Z-Trece's peasants only received 3.5 (ha.). Poverty among peasants is a growing business. The average family has five members. When their children marry, they became shareholders of whatever parcel of land the family holds. Over time, there is not enough land for each of the family members which contributes to the ever-increasing numbers of landless farmhands who work on the *fincas* or cattle ranches, but live mainly in Fortuna and Z-Trece.

The table represents a small sample of Fortuna's productive structure. Its numbers include only owners and workers that contributed to *Caja Costarricense de Seguro Social, Sucursal* (Costa Rican Social Security office) Fortuna in 1998.

Table 14

Production Structure in Fortuna

Activity	Owners	Workers	Salaries in C	Average Salary
Cattle Ranching	78	218	10,134,271	46,487
Hotel/cabins	11	57	2,672,070	45,801
Comm/rest/tourism	40	183	9,237,418	49,384
Agriculture	13	42	1,602,651	38,158
Industry	6	36	1,538,511	42,736
Packing/factory	11	126	4,096,909	32,515
Construction	7	23	1,835,947	53,737
Other/services	24	49	2,171,860	44,329
Domestic/service	2	2	36,144	18,072
TOTAL	192	736	3,636,197	41,245

Source: *Presupuesto y Programacion Operativa. Ano 1999.* Sucursal Fortuna
Caja Costarricense de Seguro Social, Direccion Regional Sucursales Huetar Norte

The productive system in Fortuna combines agriculture and cattle ranching with commerce that includes restaurants, tourism, hotels, and rental cabins.

i. Cattle ranching. In 1999, 78 cattle ranchers and 218 farmhands were registered as contributors to the Costa Rican social security system. The average salary was c./46,487 (US\$166 per month). This sector represents the third best-paid employment group. Raising cattle for dairy products is associated with the *Dos Pinos Cooperativa* that collects the milk from the various producers, or *fincas*, and combines it in the San Carlos regional plant. In milk production, there are two systems: a) the *double purpose system*, used by 50 small milk producers, characterized by one daily milking, as long as the cow is still nursing her calf. They produce between 150 and 200 litres of milk daily; and b) the *specialized system*, used by the 15 large milk producers, who control more land, and are characterized by milking twice daily by machine. They use the rotation system of pasture, fertilization programs, artificial insemination, and mineral supplements. The producers have three to five animals per hectare and produce 15 litres of milk, per cow, daily (Ulloa Gamboa, 1996a). The

milk, milk products, and their byproducts, are sold mainly on the international market.

ii. Agriculture. Agriculture is practised by *campesinas/os* who own small and medium-sized parcels of land. But, *campesinas/os* can hardly be seen as a homogeneous social group. In 1999, only 13 of the medium-sized *fincas* owners and 42 farmhands paid into the Costa Rican social security system, even though the majority of the people in Fortuna PWU work in agriculture. Agriculture is collapsing. Agricultural production is devalued; the average salary is c./38.158 (i.e., only 74 percent of the minimum wage in San Jose, which was c/51.558 in 1998). Agricultural workers are the worst-paid workers in the country.

Agricultural work is intensive, characterized by the use of machinery to prepare the soil and the use of a high level of agrochemicals such as fertilizers, herbicides, nematicides, fungicides, and insecticides. The excessive use of agrochemicals are factors in the increase of the *yuca* pest, such as *mosca blanca*, *sarna y cochinilla*, and in the increase of the prices as agrochemicals are high-priced imported inputs (Ulloa Gamboa, 1996a). Agriculture production in Fortuna is permeated with agrochemical use; thus, the soil and water are eroded and contaminated.

Fortuna PWU's *campesinas/os* live on small *fincas* and produce mainly for agricultural commerce such as the packing factory and the Friday *feria* (weekly market). Few of them produce vegetables for their own family's consumption because the policy of the government, imposed by the IMF and WB, discourages subsistence agriculture. Therefore, in addition to having to buy their own food in the market, *campesinas/os* are always in financial difficulties because their work is devalued and loans are expensive. While I was conducting this research, *campesinas/os* overproduced ginger in 1998, and *palmito* (hearts of palm) in 1999. They could not compete with the Ecuadoreans whose products are sold for less because they earn less. Crop failure (due to pests and heavy rainfall) are also an important cause of *campesinas/os* 'poverty, indebtedness, and sometimes loss of

land. Machon is a *campesino* in Z-Trece. He describes what it means to be a *campesino*, or peasant.

To be a *campesino* means to be the poorest of the poor, with no government support and no other support. Poor peasants, like me, almost stopped planting because to plant I need fertilizer, chemical or organic, and the cost is high. I do not want to mortgage my land to the bank; if I do I will lose it. I do not want it. Without land I am dead. For instance, last year, I planted *yuccas*, but the prices were so low that instead of harvesting to sell the product, *yo meti los caballos* (horses are used to eliminate the defective production) [defective means overproduction or contaminated by pests]. (Machon, July, 1999 conversation)

This situation is at the root of rural migration to urban areas, particularly San Jose. *Campesinas/os* are organized in the *Union Nacional de Pequeños Agricultores* (UPA) (National Union of Small Agriculturists) which is, however, extremely ineffective. It did not deal with land scarcity problems, nor did it participate with respect to the land conflicts, such as the one that originated with the changes in land management around the Arenal volcano. In 1999, when I met the deputy minister responsible for UPA, I asked him about peasant land lost in 1994. I was very shocked to discover he was not even aware of it. In Fortuna PWU there are many landless peasants soliciting parcels of land from IDA, even though the peasants know that land distribution is now over.

The green revolution reduced agricultural activities to what was easy to produce on a big scale and encouraged monoculture production. Biodiversity of agricultural production has been effectively decimated. *Campesinas/os* reduced their own food security to a very few varieties that are in demand on the international market. Genetic erosion is evident in the few varieties that have been cultivated extensively to sell to the *empacadoras* (packing factories). Agricultural products in San Carlos are sold to 80 agro-export packing factories (*empacadoras*) of roots and tubers (*yuca, nampi, tiquisque, jenjibre*) and papaya. (Alfaro, 1999)

iii. Packing factories. In Fortuna agriculture production of roots and tubers is sold to eleven agro-export *empacadoras*. They pack fruits and vegetables for export to the international market. They collect the products from the *fincas*. Packing factories represent the third area of employment, with 126 workers, some of which come from Abanico and even include members of GEMA. However, the majority of the workers are Nicaraguan women who are in Costa Rica illegally. The women work for less money than the minimum wage established by law and they are not registered Costa Rican social security system. (Cenicienta, 1998). Packing factory wages are the lowest and exploitation is unchecked. For instance, in *Empacadora El Burrito* located between Chachagua and Fortuna.

The majority of workers are women from Nicaragua. The workers have to arrive at 6:00 a.m, but the working day starts only when the product arrives. If the product arrives at 4:00 p.m. the working day counts from the time the products arrive and ends around 4:00 or 5:00 a.m (the next day) when we have to start the next shift. Sometimes, before our new shift starts, we run for 20 or 30 minutes to our houses just to see our children sleeping or to tell them what they can eat during the day. If the product does not arrive we do not get paid that day. The abuse does not end there. In many cases, after we have worked for a week the owner tells us to come back a week later for the payment, and when we return he tells us to come back the following week until we got tired and we do not go back anymore. (Cenicienta, Summer 1998)

These women work hardly earn c./1,300 (US\$5.50) daily from Monday to Saturday. Work in these factories is back-breaking. In cases where women can no longer tolerate the back pain their job produces and are forced to leave work early, they lose their salary for the day. The government has made the Nicaraguan workers illegal to avoid having to pay for their social security. Many Costa Ricans are angry at the illegal Nicaraguan workers because they can, however, use the National Health System which is paid for by the legal, Costa Rican workers. In 1999, because of the massive immigration from Nicaragua caused by Hurricane Mitch, the government finally legalized most Nicaraguan immigrant workers, but their working conditions have not changed.

iv. Eco-tourism. The Arenal Project development plan believes that eco-tourism under a good management system is beneficial to local people and nature. The Project believes that maximization of benefits, growth, and capital accumulation minimizes the impact of the transactions on nature, and thus mobilizes local groups in favour of eco-tourism.

Fortuna was integrated long ago into the national and international market; however, until recently, farming accounted for an important part of local people's activity. Since 1994, the Arenal Project introduced new rules in Fortuna and its surrounding areas. Fortuna became consolidated as an important area for tourism. Thus, Fortuna's rural areas became less agricultural and more service-oriented in 1998 and 1999. Eco-tourism produced changes not only in the production structure, but in employment, particularly in the high season. In 1999, the commerce sector, which includes hotels, rental cabins, restaurants, and tourist attractions, became the number one activity in La Fortuna Centro and Z-Trece. This sector employs 240 workers in hotels and tourism-based industries, representing the majority of the workers in any one sector. The salaries paid in the tourism sector are also the highest in the area, while workers in hotels and rental cabins receive the fourth high level of salaries.

Tourism is a new business in the area. The Arenal Project was key in promoting and developing Fortuna as an eco-tourism centre. ACA eco-tourism promotion linked conservation areas with tourism. Eco-tourism is described as environmentally friendly, sustainable, and nature-based. It is promoted as an alternative activity that generates income while protecting the environment. This activity promotes visits to relatively undisturbed natural areas with the aim of studying, admiring, resting, and enjoying the Arenal Volcano scenery, wild plants and animals, as well as any existing cultural aspects. In the word of locals, eco-tourism is the opportunity to make profits by using the jungle.

The Arenal Project deliberately entrenched the social division of labour of the world system and made Fortuna a specialized area for eco-tourism. To fulfil the

commitments in tourism ventures, the Arenal Project has launched tourist promotion programs, hotels, Internet advertisements, etc. that exploit the Arenal Volcano image on all printed materials. The Arenal Project provided financial and technical support to several eco-tourist initiatives. Eco-tourism is developed within the protected areas and their surrounding territories, particularly in La Fortuna Centro and Z-Trece. The main attraction is the Arenal Volcano (*El Volcan Arenal*), followed by the Caves of Venado (*Las Cavernas del Venado*), Caño Negro, and Rio Fortuna Waterfall (*Las Cataratas de Rio Fortuna*).

Eco-tourism promotion, driven by supply and demand, promises a world of leisure, freedom, taste, and safe risk. From advertising images that utilize the commons (the Arenal Volcano), influential groups of society make profits, as well as some small micro-enterprises. The perception of the locals regarding eco-tourism is that new immigrants, with modernization thoughts of exploitation, are taking advantage of what the community has already built.

Since 1968, when the Arenal Volcano erupted, Fortuna has changed very much. People come to Fortuna just to see what to exploit. Whoever comes here knows that in Fortuna, tourism is exploited. Now everyone has personal or political interests in being associated with tourism. Happily, Fortuna still conserves human warmth, because it is not rural or urban. We are lucky that La Fortuna Centro is still in the hands of nationals. (Hidalgo, Summer 1999).

Eco-tourism benefits some families where land is concentrated. Those who benefited the most are owners of enormous parcels of the land, such as *Jungla* and *Sendero Los Lagos*, owned by the Cedeño family. This property, representing 400 ha., is used for tourism purposes (i.e., resorts, cabins, campgrounds, etc.), and, thus, allows the family to derive enormous financial benefits from eco-tourism promotion. As Pleumaron (1999) has suggested, those who have the economic and political power to instil a sense of materialism and consumerism in society, are also able to shape tourists' consciousness, values and tastes. Furthermore, according to Pleumaron, this system of administered consumerism is the sale of whole countries involving entire societies, their culture, their environment and their identity.

Eco-tourism has met with remarkable success in Fortuna. Around 1974, Vital Quiroz's son built the first four cabins. Initially, they were used by commercial agents and truck drivers, but 20 years later they have been transformed into the San Bosco Hotel, and it is one of the most expensive and important tourist resorts in Fortuna. "In 1992, around the Earth Summit, we were surprised with the tourism flow to Fortuna. We had to rustle up rooms because Fortuna had only 90 beds at that time. But when the inflow of tourists was established, people started to build cabins, hotels, restaurants. Now, in 1998, there are more than 1,600 beds" (Solis, Summer 1998)

Since 1994, capital investments lead to the rapid conversion of agricultural lands into massive tourism complexes, including luxury hotels, such as *El Tabacon*. The tourism industry boom was backed by local banks and the Arenal Project. The Arenal Project financed one peasant's lodge in Z-Trece, *Albergue La Catarata* (described earlier). In Fortuna, the Arenal Project also helped the small- and medium-sized tourist enterprises to become competitive. "To avoid being left out of the market we organized an association, AMITOFOR. It has two goals: (1) to strengthen our local heritage to avoid foreign penetration into our land; and (2) to manage nature. This last objective has given us a good communication's basis with ACA" (Solis, Summer 1998).

AMITOFOR represents small and medium sized tourist enterprises. In 1998, it represented 36 members out of the 125 tourist entrepreneurs in Fortuna. They are working in hotels, restaurants, as tour guides (on land, and on water), travel agencies (organizing tours, reservations, transportation). To organize this sector, AMITOFOR received a donation of c/1,000,000 (CDN\$5,000) from the Arenal Project.

In 1996, the number of tourists in Fortuna was 500 in low season, and 1,500 to 2,000 during high season (Ulloa Gamboa, 1996a). The Arenal Project and Canadian travel agencies promote Costa Rican tourism in Canada using the image of the Arenal

Volcano National Park. From 1992 until 1996, 313,525 Canadians visited Costa Rica. In 1997 alone, 36,032 Canadians visited Costa Rica (ITC, 1999).

Eco-tourism offers new market opportunities to national and international capital, and involves expansion and improvement of infrastructure as well as competition between local and foreign companies that started setting up offices in Fortuna. The influx of foreigners has also produced changes in the lifestyle of the people. Land prices skyrocketed, local villagers sold productive agricultural land to speculators, and fertile land has become tourist construction sites. Spiralling house, land, and food prices affect the less privileged social groups. A new culture occupies places previously occupied by the local culture. This may be better understood in the words of Vital Quiroz: "On Sundays, we used to go early to mass in order to find a place to sit down. Now only a few people go. People in Fortuna have no time, because they have to saddle the horses to walk the tourists, or look for tourists to prevent others from taking them away. All of them are just following the dollars" (Quiroz, Summer 1999).

Women's opportunities for income-generating activities are also concentrated around eco-tourism. For instance, women artisans, painters, and seamstresses are increasing in number. These women exhibit their work in the tourist resorts.

3. Disconnecting Communities from Nature

The Arenal Project effectively disconnected the local community from land-based resources in ACA. To disentangle communities from their biomass, two methods were designed: a) user fees; and, b) micro-enterprises.

a. User fees. The lack of an adequate analysis of the Arenal Project's conservation model allows the Project to interpret environmental degradation as a result of the communities' poverty (implying that the poor have "always exploited" the natural resources for fodder and subsistence farming). The Arenal Project used the Land Plan and development

management as arbiters between people and nature. The Land Plan privatized enormous sections of land, creating categories from nucleus areas to buffer zones, and eliminating the communities' rights to the usufruct of the land biomass. User fees were applied to land falling within the rigid boundaries created by the Arenal Project's development management, transforming the original inhabitants into intruders.

This newly private land in ACA has seven park guards who are trained in how to handle firearms, equipment, and land invasions. The park guards are organized in one *Unidad de Control* (Police Control Unit) that patrols the nucleus area of ACA's territory. When the *Unidad de Control* finds community members "breaking regulations stipulated in the Land Plan" (that is, not paying fees or stepping on "designated research areas"), the park guard removes anything the individual may have obtained on the land (eg., fish, or game) and whatever tools were used, and then report "the offence" to the office of the public prosecutor.

A year ago, three of us were patrolling Quebradon Patusi where many people used to hunt. We heard barking dogs and saw a *chavalo* (young man) walking behind the dogs. We walked in silence to corner him, but one of us tripped. The *chavalo*, scared to death, started to run, then swam, and then ran again, this time on a wall of rocks. To try to stop him, we shot at the air, but he never stopped, because he knew that he was breaking the law. (*Unidad de Control*, Summer 1998).

Over decades, development in Costa Rica removed the security of communities away from nature towards the market. In this way, community members lost responsibility for nature, because the state was in charge of natural resource protection. Among the settlers, natural resources (wild or cultivated) were considered the property of the landowner. However, an important number of members of the community traditionally hunted in the jungle surrounding the forest reserves and national parks, or fished in the numerous rivers that are part of the conservation area..

Since the creation of Conservation Areas, MINAE's offices are in charge of selling permits to anyone who wants to fish, hunt, or cut forests. Rich Costa Rican men pay fees to kill any

animal they want, while poor Costa Rican men, whose source of sustenance and livelihood is still nature, are turned into criminals.

The separation of people from nature has created a sense of disorder, alienation, fragmentation, and uncertainty among the poor members of the community. In the past, most families would spend their free hours walking in the countryside, climbing hills (*cerros*), swimming and fishing. Close to nature, families and neighbours were brought together. While recreational activities in natural settings were used to be free for everyone, the Land Plan converted nature into expensive resort areas with limited social access.

I have lived here for 15 years but I do not know the area. I know the Arenal Volcano only from the side I see where I live and work. To visit any of the places I need money to pay for transportation and entrance fees. Do you think that earning c/7.000 [CDN\$28] per week I can afford to take my children (three) and myself outside my home? (Piña, Summer 1999)

The Land Plan, as a conservation tool, and the Wildlife Conservation Law are hard to understand. According to Article 11 of the latter, wildlife conservation is sustained by selling licences to predators (any foreign nationals, as well as locals, that want to fish, hunt, extract genetic material, etc.). Those native Costa Ricans who still maintain their ancestral ways of life are, however, looked on as enemies by those linked to ACA-MINAE and the Arenal Project privatization schemes.

But, some members of the community still manage to live a traditional lifestyle and work in *quadrillas*. A *quadrilla* is a group of individuals working together for hunting purposes. In this job, no one works in isolation because of risk of bites from poisonous snakes, broken legs, or rolling boulders ejected from the volcano. For a group of hunters from San Carlos, the only reason they are seen as enemies is because they do not have the money to pay the fees the new laws require.

If I have money and pay a licence to hunt (*montear*), I can hunt without problem. Paying c/5.000 (US\$20) I can kill moose (*dantas*), deer (*venado*), tigers, or whatever wildlife I want and no one would say a word. The licence

only tells me what kind of gun I can use (28, 222 forming, 22), but it does not tell me how many I can kill. (Tepezquintle, Summer 1999)¹²

Hunting and fishing for survival needs have made some of the locals criminals, even though, they argue, their work is more logical since, as traditional hunters, they know that a *tepezquintle* bears offspring twice a year, and their reproduction rate is faster than tree growth.

If ACA-MINAE stops selling licences for hunting to the rich who can pay, I will stop hunting, because I will see that it is not just the poor who have to conserve wildlife. I can live happy if this inequality stops. If they permit hunting to the rich but bother the poor I cannot be happy. I can see rich hunters drinking in bars, while in their station wagons dogs bark and dead *tepezquintles* hang in baskets. They are openly showing-off their hunting. But if I have a *tepezquintle* in a bag, MINAE takes it from me, and if I do not confront them I also risk losing my dogs, because, I do not have a car and I am walking. That is the reason why we [the hunters] do not stop hunting. Why is it that those who have money can hunt and those who are poor must become conservationists. As a poor man I believe that laws are only for the rich who can afford to pay. (Tepezquintle, Summer 1999)

Hunting is not the only prohibited activity for poor members of society, but fishing as well:

We fish with *arbaleta* [spear] in *Embalse Arenal*. We believe that this is the only legal fishing, because I choose the fish I want. I won't fish a small fish, I will fish a big one. MINAE disagrees with our methods. MINAE prefers the use of fishing poles. With that instrument I cannot differentiate which fish is adult or young. Because we do not pay fees, fishing is also prohibited for us, thus, we must hide from the control unit. We need to be careful going in and out in order to avoid the guards. All this work means sacrifices, but we do it to live. This is the heaviest job in the world, because I do not use oxygen, I just use my lungs. This is a really hard job. (Tepezquintle, Summer 1999)

¹² "Tepezquintle" is a pseudonym for one of the hunters that belongs to the San Carlos *quadrilla* who wished to remain anonymous.

Hunters and fishermen strongly defend their rights to the land and water resources on the grounds that they have been doing this forever.

I am 40-something and I have been hunting since I was 14 years old. Depending on the phase of the moon, we go to work, because *monteando* [hunting] is work for us. That is what provides a livelihood for my family. We hunt *tepezquintles* and *sainos* and we know when and how. The best time to hunt is when there is no full moon, because *tepezquintles* and *sainos* look for food in the dark. Our work is directed by the moon, we hunt three days before the full moon when *tepezquintles* walk all night long, and/or two days after the full moon. During these nights we use the *encandilado* technique [this means using a light to shoot the animals]. When the animals arrive looking for food we light the place and shoot, but only if the animals are big enough. In the full moon, we use dogs to hunt, because *tepezquintles* are fast runners; what the dog runs in ten hours, *tepezquintles* run in one hour. (Tepezquintle, Summer 1999)

For members of the local community, ACA-MINAE and the Arenal Project have not altered the tragedy of deforestation. Deforestation is a clandestine economy particularly for agriculture and cattle ranching. In Fortuna, the situation was described as follows by Vital Quiroz:

It is a pity that wood is still being cut down in this area. I can see wood piling up in trucks to take to the sawmill. Also there was a man whose *finca* borders with the *cerro* [referring to Cerro Chato], his *finca* was sprawling up to the mountain. One day, I told him "*¿días Sr como que su finca se esta criando?*" [Do you know that our water comes from there and these (signalling his children) who are growing won't have water?]. He answered "when the water dries up I won't be alive." But he told me later that what I said to him hit him and he stopped cutting (*apeando*) trees. (Quiroz, Summer 1999)

Deforestation is significant in the lives of poor hunters. In their view, deforestation threatens wildlife and water run-off. They think that the official struggle against deforestation under Forestry Law No. 7575 (February 5, 1996), is only only useful for the conservation of "small forest plots," while deforestation practices continue in other areas. In the words of Tepezquintle:

I am against cutting trees. A few days ago, I told someone that the tree he had just cut was 100 years old; to see another tree of that size and age we will need probably three or four generations. However, he told me that he paid his

fee to cut down the tree. I told him, if I paid fees to MINAE, they would probably tell me that for the money I pay, I can hunt three *tepezquintles*, even though I just need one that day. (Tepezquintle, Summer 1999)

The Arenal Project failed to convince poor and rich members of the community to become part of the conservation efforts, particularly those whose influence is great—the *quadrillas* of hunters, the cattle ranchers, and the agriculture producers. The rich continue to clear-cut the forest in order to increase the land available cattle ranching and monoculture plantations. Instead, the who depend on nature to survive are branded as dangerous and risk persecution by MINAE. Confrontational situations between *the Unidad de Control* and the hunters are frequently reported. Tepezquintle said nothing has happened yet because “we are more intelligent that they are.”

I meet MINAE’s guard at least ten times a year. Our *encuentros* are irregular, sometimes we meet four times in a month but then we don’t see each other for four months. They are trying to find us at fault, but when they invent something against us, we are three steps ahead. For example, if someone denounces (*sapea*) to MINAE about our location, MINAE closes every entrance. The strategy is very simple, one of us with *presas* (a captured animal) and guns will walk in the opposite direction, while others go straight where MINAE police are waiting for us. When we arrive, we do not have neither the *presas* nor the guns. When they ask where we were, we answer, today we are tourists. When they ask about the dogs, we answer, the dogs are mine, they go wherever I go. Any problem? However, one day when one of the guards tried to snatch away my dog, I told him that if he touched him I was going to cut off his hands. He knows that I can do it. (Tepezquintle, Summer 1999)

Active community participation in environmental protection has been reduced to garbage collection, and planting trees around the 50 metres of the rivers for water preservation. A group of community members (around 15 at the last meeting held in Fortuna in July 1999) are trying to resurrect the *Comite de Vigilancia de Recursos Naturales* (covirena) (Natural Resources Vigilant Committee), originally organized under MINAE’s leadership to control the community activities. Only young people who see MINAE as a source of employment as park guards are involved. There are also a few well-intentioned citizens.

b. Micro-enterprises projects supported by the Arenal Project. Micro-enterprise is a polemic concept. It can mean small productive units and informal sector units useful to

the formal economy in time of crisis. Micro-enterprises appeared when neither the state nor the private sector could guarantee a minimal living condition to the population. Micro-enterprise, as an informal sector, became the new source of income. (Van Osch, 1984).

In this thesis, micro-enterprises are defined as income-generating units for low-income people promoted by public policies and developed by NGOs using international aid funds such as debt-for-nature investments, and/or multilateral bank funds.

The micro-enterprise model became popular when extreme poverty increased from 17.7 percent in 1980 to 36.8 percent in 1982. The rate of the extreme poverty living in urban areas was 8.4 percent and in the rural areas were 20.2 percent. The total of poor families within the urban area increased from 8.5 percent in 1977 to 22.8 percent in 1983. The major increase was in the rural areas where the number of poor families jumped from 17.4 percent in 1977 to 37.2 percent in 1983 (Vega Carballo, 1992).

Lower classes in rural areas became mobilized in new ways of organizing to confront the growing poverty and stop rural migration to urban centres. In 1983, from 10,000 new jobs generated, 9,741 were employment in the informal sector. This meant that almost all the new jobs generated in the country were in the informal sector (Baldizon and Cruz, 1987). By 1985, USAID proposed the development of micro-enterprises in productive activities in the hands of NGOs as an anti-poverty program model. The beneficiaries would provide products at low prices, even below the cost of production. Supported by AID, FAO, BID, C.A.R.E. rural women were organized in 4-S Clubs and Households (*Clubs 4-S y Amas de Casa*) following the U.S. model of the 4-H Clubs. The Ministry of Agriculture and Livestock (MAG), in charge of these programs, promoted household industry, nutrition, household improvement, small business, and agro-industry. Women's programs in the hands of male-dominated institutions—whose members did not believe in the ability of women to successfully manage agricultural activities—gradually disappeared (Baldizon and Cruz, 1987).

Like land ownership concentration, credit is also concentrated in the hands of 0.1 percent of the population who, in 1996, obtained 23.1 percent of total *credit* (*Estado de la Nacion*,

1996: 68). During the 1980s, micro-enterprises were supposed to improve the income and the quality of life of all their participants. Credit interest rates were inferior to commercial banks rates. Full attention was proposed (credit, education and training, support, and commercialization). These postulates were possible because the money invested was from donations or grants. During the 1990s, with monetarist policies, credits must be sustainable, that is, credits to micro-enterprises must cover the operation costs of the credits. In addition to reduction of risk, capitalization of funds must be guaranteed. The opening of the credit's ceilings permitted the increase of interest rates, sometimes above those of the commercial banks.

Micro-enterprises became the way to organize the local communities in the Arenal Project. In the 1990s, micro-enterprises are considered alternatives to agro-production centres that include productive diversification, and for that purpose, beneficiaries received loans to establish micro-enterprises. They are supposed to be the innovators of the markets with the injection of new products coming from biodiversity. The Arenal Project concentrated its activities on small, rural producers who constitute the majority of the Costa Rican population. The Arenal Project uses debt-for-nature investments to finance local projects using two systems: credits and donations. But, as the director explained, "In reality we broke with donations because we are promoting micro-enterprises" (Tremblay, 1998a). The interest rate the Project charges is usually a few points less than the banking system. In 1996, the Arenal Project loans charged a 20 percent interest rate.

The Arenal Project defined as sustainable development those projects whose work is funded in three pillars: environmental sustainability; social sustainability, and economic sustainability. Sustainable development's first principle is the idea that working for the international market per se is sustainable. Thus, loans are supplied to projects in the productive sector and in the service (tourism) sector, geared to the international market.

Between 1996 and 1998, 49 projects, many of them credit customers of the Arenal Project, received donations from the Arenal Project and FUNDACA Credit Committee, in the following areas:

- eco-tourism and marketing: ASPROADES (twice), *Asociacion Ecologica Montes de los Olivos* (twice), ABIPA (F & R Tourism);
- agro-industry enterprise: APABI, COPELDOS (twice), *Sociedad Conservas El Lago*, *Junta Administrative Liceo Maurilio*, *Coopemontes de Oro*;
- environmental education: *Agencia Cedral* of the Agriculture and Cattle Ranching of MAG, Bijagua Health Committee, CENDOC;
- communal infrastructure: *Asociacion de Desarrollo Comunal de la Fortuna* (community development, garbage collection, Rio Fortuna Falls project, solid waste management), *Comision de Seguimiento de la Estrategia de Infraestructura Communal*, *Asociacion de Mujeres de Bajo Caliente*, *Asociacion de Mujeres de San Martin*, *Comate de Caminos de Z- Trece*;
- training and education: *Junta de Educacion Escuela de la Fortuna*, *Junta de Educacion Escuela del Castillo*, *Guias Scoutt*, COOCAFE, *Fundacion Hijos del Campo*;
- school infrastructure: *Junta de Escuela de Z-Trece*, *Junta de Educacion Escuela del Jauri*, *Junta de Educacion Escuela B San Antonio Nuevo*, *Junta de Educacion Escuela El Carmen*, *Junta de Educacion De Cedral* (twice), *Asociacion de Desarrollo de Ojo de Agua*, *Asociacion de Desarrollo de Bijagua*;
- agriculture and agro-forestry: *Asociacion de Mujeres de Ojo de Agua*, *Asociacion de Desarrollo de Bajo Caliente*, Pedro Rodriguez;
- research: Leda Quesada;
- conservation and protection: *Asociacion de Desarrollo Cedral (zoocriadero)*, *Sociedad Bio-ecologica del Norte (zoocriadero)*, *Asociacion de Desarrollo de Zapote (vivero)*, *Escuelas de la zona del Circuito (vivero and huertas organicas)*, *Asociacion Conservacionista (proteccion de bosque)*, *complejo ecoturistico Cascadas (manejo de desechos)*;
- artisan: *Asociacion de Mujeres Artesanas de Bijagua*
- cattle management: APABI
- buying land and infrastructure: FUNDACA.

The total donations made amounted to 16,648,597.70 *colones* (CDN\$89,902.42) in 1998.

Between 1996 and July 1998, credits were loaned to:

- agro-industry: APABI, COPEMONTES DE ORO, COPELDOS, *Conservas EL Lago S.A*;
- organic agriculture: the Abanico Medicinal Plant and Organic Agriculture—Grupo GEMA, *Asociacion de Desarrollo Integral de Zapote Bijagua*;
- infrastructure: *Asociacion de Mujeres de Cedral*, FUNDACA;
- agro-forestry: *Agencia de Extension Agricola MAG Cedral* COPEMONTES DE ORO;
- artisans: *Asociacion de Mujeres de Cedral*;
- zoocriadero: Sociedad de Mujeres de Cedral.

Total credits were 15,449,650.92 *colones* (CDN\$ 83,428.11) up until July 1998.

Credits during Phase I and Phase II, until July 1998, were c./64,974,574.00 *colones* (CDN\$473,664.64). The interest on these loans that will be received by FUNDACA are supposed to continue the funding of sustainable development projects (Isidoro, 1998).

D. Conclusion

Debt-for-nature is implementing the belief that small markets will efficiently compete, and will reduce poverty as well as environmental degradation. In ACA, Priority Working Units are linked directly to the international market. In this way, I believe that debt-for-nature investment will be responsible for the entire disintegration of the country in order to serve the interests of the global economy.

Chapter Seven

The Abanico Medicinal Plant and Organic Agriculture Project

The material presented here on the Abanico Project draws heavily on interviews with two World Wildlife Fund–Canada officials, two National University researchers, three ANDAR officials, five community members, and informal conversations with other local community members.

ANDAR is a Costa Rican NGO that gets financial support from Holland and is involved with the WWF-C in developing the Abanico Project. I was not able to interview the Director of ANDAR on my first field trip to Abanico. ANDAR and the Arenal Project signed a cooperation agreement to organize sustainable development programs with women specifically. However, there were no friendly relations between ANDAR (financed by Holland) and the Arenal Project (financed by Canada). Both NGOs were directly and indirectly involved in the Abanico Medicinal Plant and Organic Agriculture project. My presence in Abanico was uncomfortable for ANDAR. The fact that I was coming from Canada made ANDAR suspicious that my presence favoured the Arenal Project. This situation was never overcome by the NGO administration. But the fact that the Dutch Embassy had contracted a woman to look after the marketing of the project helped me to find ways to cooperate and overcome some of the resistance displayed by ANDAR's director. During my second field trip, with the generous help of this particular Dutch woman, I was able to interview ANDAR's director.

During my second field trip, I also made arrangements with the Arenal Project personnel to discuss the report, of my previous research trip to Costa Rica as Mr. Tremblay had requested during my first trip. I went to a meeting that one member of the Arenal Project and I had called, but no-one showed up. For that meeting, I had traveled from San Jose to Tilaran. The next day, since I was in Tilaran, I insisted on a meeting with the Administrator of the Arenal Project. He only had ten minutes for me as he was chairing a meeting when I arrived at his office. I informed the staff where messages could be left for me at the hotel where I was staying, *Albergue La Catarata* in Z-Trece and San Jose. Occasionally I met some of them

at the *Albergue La Catarata*. They all promised to discuss the report, but no one ever actually contacted or approached me about the report.

In 1990, Costa Rica's Legislative Assembly approved Law No. 7142 to promote social equality for women. The Assembly also approved the Organic Environmental Law that promotes organic agriculture and organic certification, particularly for export-oriented production (*El Estado de la Nacion*, 1996: 252). Since 1990, these two laws have introduced new guidelines for rural development.

Since the Earth Summit, micro-enterprises have become the sustainable development strategy model that government and international cooperation are pursuing together. Micro-enterprises are important in the export-promotion policy as part of the country's commercial opening up and debt repayment. Peasant micro-enterprises of low capital and technology are inserted into the international market to compete for hard currency. Also, since 1992 every project of international cooperation must have two components: sustainable development and gender in development.

In 1999, government institutions such as *Instituto Nacional de Aprendizaje* (INA) (National Institute of Apprenticeship), *Instituto de Desarrollo Agrario* (IDA) (Institute for Agricultural Development), *Instituto Mixto de Asistencia Social* (IMAS) (Institute for Mixed Social Assistance), *Universidad de Costa Rica* (UCR), *Universidad Nacional* (UNA), Ministry of Health, and Ministry of Education are involved in financially and technically supporting the micro-enterprise model. In 1999, as the country's economic situation deteriorated, new investments for micro-enterprises grew. Under *Programa Nacional de Micro y Pequeña Empresa* (PRONAMYPE) (National Program of Micro and Small Enterprise), c./20,000 million were destined to the creation of new micro enterprises with the support of *los paises bajos* (The Netherlands), the *Banco Nacional* (National Bank), and *Banco Popular*. In 1999, micro-enterprise provided jobs to 427,000 people which represented 42 percent of the population. (*La Nacion*, 1999a). Forty-three NGOs and cooperatives are currently promoting micro-enterprises in Costa Rica.

The involvement of USAID in fostering the rapid growth of micro-enterprises in Costa Rica is explained in two different, but not mutually exclusive ways.

First, micro-enterprises can be seen as helping to make the IMF and WB model politically viable. Carlos Sojo (1992) argues that USAID implemented the model as a way to compensate the increased number of poor people, an imbalance provoked in the society by the millions channelled into the credit system to support the medium and large enterprises, under the *Programa de Estabilizacion y Recuperacion Economica* (ERE) (Stabilization and Economic Recuperation Program), and to avoid protests.

That is, to support the IMF-WB supply side policies that proposed the market expansion, USAID offered credits to persons or groups who were not credit-worthy according to the policies and lending practices of private and/or public commercial banking system. The recipient activities were oriented to strengthening small artisans and cooperative organizations, credit programs, and supported non-traditional export production. The Costa Rica Association for Development Organization (ACORDE), established by USAID, was key in advancing the strategy. USAID's Social Assistance Funds package directed to micro-enterprise projects for marginalized social groups was US\$12 million—an amount that represents less than one per cent of the millions of dollars devoted to the ERE Program (which was discussed earlier in Chapter Two).

Another explanation is that micro-enterprises are a way to shift state responsibilities to NGOs. Geoff Wood (1977) maintains that the model was a way of strengthening NGOs with access to international donors, in order to achieve the dismantling of the state functions. In the same line of thinking, Carlos Quesada, Director of Sustainable Development Research Centre, argues: "In the monetarist paradigm, the civil society, represented by NGOs are part of a discourse made outside Costa Rica with the goal of reducing the state capacity to organize a country" (Summer 1999).

In the supply side model, NGOs are put in charge of the services and policies that the state cannot deliver because of its dismantling. Non-profits serve as a protective layer to make the

system work, but particularly important is their role in directing social reform, formerly the government's responsibilities. The proposed model made NGOs responsible for the implementation of policy (understanding practice as policy) that the Costa Rican state used to deliver, abandoning the state responsibility for upholding the rights of their citizens, particularly women's rights. The NGO model has been effective in privatizing public services and has been the best way to ignore the impact of cuts made under Structural Adjustment Programs on women's work and lives. However, according to USAID, NGOs function with neutral ethics and their unique preoccupation is to guarantee the transfer of benefits from the market to the society. Therefore, financial needs as well as educational and technical assistance of the micro-enterprises must be in their hands.

Two NGOs, *Asociacion ANDAR de Costa Rica* (hereafter, referred to as ANDAR) using the funds from Holland–Costa Rica's debt-for-nature investment, and WWF-C, using the funds from Canada–Costa Rica's debt-for nature investment, have been organizing micro-enterprises in the rural areas where the majority of Costa Rica's poor live. In 1996, 25.1 percent of rural families lived in poverty. Of this number, nine percent live below the poverty line, while 16.1 percent do not satisfy their basic needs. In 1996, 17 percent of families were headed by women. Micro-enterprise has been promoted by NGOs as a means to reduce poverty. NGOs proposed alternative agriculture, this is, organic agriculture, characterized by the minimum use of inputs, soil management, productive diversification, and environmentally friendly methods. Alternative agriculture was promoted to combat poverty and encourage diversification in order to increase income and quality of life. However, my study of the Abanico women's project shows the limitations of the project in integrating women into development programs when they are understood as capital accumulation.

Fostered by the Land Plan, the Abanico Medicinal Plant and Organic Agriculture Project (hereafter, Abanico Project) is one of the 30 cooperation agreements signed by the Arenal Project. The Abanico Project is one micro-enterprise organized under the cooperation agreement between two NGOs: the Arenal Project and ANDAR. In the work division between ANDAR and WWF-C, ANDAR became engaged in developing micro-enterprises in the women's

sector. ANDAR is recognized as the entity responsible for the management of the projects. The Arenal Project (managed by WWF-C) and MINAE are the co-managers.

Within Fortuna PWU, I selected the Abanico Medicinal Plant and Organic Agriculture Project, run by the *Grupo Ecologico de Mujeres de Abanico* (GEMA) (Abanico's Ecological Women's Group) to study because I had met a member of the group who liked the idea of studying the group's work. It also met the three criteria for my study: (1) the group had received credit from the Arenal Project-Credit Committee that uses debt-for-nature swaps investments; (2) the Arenal Project promotes sustainable development and gender in development; and (3) the group works with medicinal plants, which are biodiversity products.

This chapter is focused on Women and Development (WID) programs organized by the Arenal Project. It was during Phase II of the Arenal Project that women were consciously included in the strategy to expand human capital in sustainable development. Using this case study, I will dispute the fact that these micro-enterprises are sustainable even by the Arenal Project's own definition, which includes the requirement that the productive project improves the family income of participants.

This chapter assesses the socio-economic impact on women's lives of one micro-enterprise project, the Abanico Medicinal Plant and Organic Agriculture Women's project. The chapter presents a systematic analysis of rural women workers and the attempt to articulate their work within the capitalist division of labour. The first part presents a brief overview of Women in Development literature; the second part explores the relations of the micro-enterprise with the supply side economics; the third part shows the connections of the two NGOs (ANDAR and WWF-Canada) to the Abanico project. The fourth part describes the community and the group.

The information concerning the micro-enterprise model was supplemented by two interviews with the NGO-ANDAR members, four interviews with officials from the Arenal Project, two with government officers, and two with professors of the Physics Department of the

Universidad Nacional. The most valuable information with regard to land tenure, livelihood practices, and environmental perceptions was gathered by daily interaction with the family that I originally befriended when I arrived in Abanico, and other community members as well as with some of the members GEMA as they were cutting, selecting, or packing medicinal plants, or otherwise touring their farms.

NGOs' work emphasizes the important role of women in working with biodiversity, knowing that it is rural women who take care of the medicinal plants and its *cocimiento*. In carrying out Women in Development (WID) strategy, NGOs depend on micro-enterprises for women. The micro-enterprise is organized in a way that is intended to increase gender equity as well as ensure sustainable development. Therefore, assessing a women's project provides insights into the patterns of both assumptions.

As in other parts of the world, Costa Rica's rural women have generally participated in economic development in two ways: working in the household and working in the public sphere. Work in Third World countries is low paid, and only the work validated by the market (performed in exchange for money) is recognized and recorded in the national accounting. This situation has the following consequences for rural women: a) women are considered "inactive"; therefore, women's participation is under-reported; b) no contribution made by women's work at home is registered; therefore, no value is assigned to support this contribution to the national economy; c) no contribution made by women's productive work in the farm is recognized; therefore, women's work at *fincas* is ignored. The recognition of women's economic invisibility led to the Women in Development (WID) call for mainstreaming women through education and integration of women into development.

A. Literature on Women and Development

In trying to correct the devaluation and invisibility of women's work, NGOs are mainstreaming women's issues implementing what are called Women in Development (WID) programs. The WID framework criticizes the failure of economic development to recognize the productive role of women.

To explain women's lower status in developing societies, early feminist researchers, such as Boserup (1970) in her study of agricultural societies, called for the use of a distinction between two patterns of the sexual division of labour in production: the male and the female farming systems. Men were taught to apply modern technology in the cultivation of cash crops while women were relegated to the subsistence sector of food production using traditional methods (Boserup, 1970: 65). According to Boserup, the underestimation of women's agricultural participation was a consequence of women's work in subsistence agricultural activities which are omitted in the statistics of production and income.

Furthering Boserup's work, Barbara Rogers (1980) argues that the division of society into public and private spheres and the fact that women are placed within the private domestic sphere is responsible for women's subordination. This is a result of the ideology of the western developer who developed women-specific projects that perpetuated women's work in the private sphere. Rogers claims that this process ignores women's productivity and renders it invisible.

Both Boserup (1970) and Rogers (1980), called for education and integration of women into development as a way of legitimizing the claims of women to an equal share of the benefits of development. They generally support the current model of development, suggesting that women's status will be improved through evolutionary change.

Isabella Bakker (1994) in documenting the outcomes of Structural Adjustment Programs, recognizes that global restructuring is also occurring in a gendered terrain and that macro-economic policy needs to be engendered. She makes the case that linking a gender-relation analysis to the economic policy framework may help curtail differential material outcomes for women. Diane Elson (1994), examining how social institutions and monetary relationships become gender barriers for women, proposes equal-opportunities legislation, education to combat prejudice, and "safety nets" for women. The inclusion of non-market relations into the economic discourse, promoted by WID supporters, demands a strong state to channel resources to women. Bakker and Elson assume that state corrective policies can be made and effectively implemented by technocrats in defence of the interests of women.

This problematic WID strategy has been shaped by an adherence to neo-conservative views about the efficacy and responsiveness of the market in guiding and enlightening policy to advancing women's status.

These views incorporated in Women in Development (WID) programs explain that limitations imposed on women's work capacity "by culture and tradition" or "by ignoring gender differences" can be cured by state policies. If culture and tradition imposed the limitations on women's capacities, development was seen as the liberator of women. WID makes an appeal to "invest in women" as a "cost effective route to broader development objectives such as improved economic performance, reduction of poverty, greater family welfare, and slower population growth" (Kardam, 1991: 51). If policies ignore gender differences, the goal of WID is to mainstream women's issues into the conception and design of economic policy as a whole—to push states into recognizing the real differences that exist between women and men as social subjects, and the need to consider the effect of macro policies on the sexual division of labour. WID concentrates on women's access to cash income via the market, either as individuals or members of some form of collective, as the base strategy.

Just as economic development has constructed poverty as a rationale for its existence for the last 20 years, WID has constructed its clients category for development programs. WID uses the knowledge about women in the Third World to serve as basis for the economic policies of the development regime (Mueller, 1986). WID critiques of economic development have been incorporated into the neo-conservative economic practices of the World Bank and are now one of the programming priorities of development agencies that NGOs pay lip service to. WID's call for women's inclusion into the productive process has been used as an opportunity to include a few women in the market with lower average salary than men working in the same field and as a way to reduce men's salary by the increase of labour force supply (Mueller, 1986).

Gender and Development (GAD) practitioners seek to transform the terms under which women are linked to productive activities in such a way that economic, social, and cultural equality is insured. Kate Young (1993) says that development, within GAD, is viewed as a

complex process involving the social, economic, political, and cultural betterment of individuals and of society itself. Betterment in this sense means the ability of the society and its members to meet the physical, emotional, and creative needs of the population at a historically acceptable level. Therefore, GAD aims to increase women's political power within the economic system. In discussing the Mexican experience, Fernandez Kelly (1983) emphasizes that the productivist logic of WID aims simply to make women produce and reproduce more efficiently rather than to support women's lives as autonomous human beings.

However, neither WID nor GAD discourses challenge development discourses' core assumption that development is about growth, capital accumulation, and technology. WID and GAD both criticize development practices; however, they wish that women might be accommodated in development and/or women may be persuaded to accommodate themselves to the needs of development through hard work and personal sacrifice. The use of gender-analysis, approved by the WB and development institutions through the study of gender impacts, cannot make a difference in the status of women. Differential impact studies only challenge the assumption of gender neutrality of economic and social policies, not the core principles of economic development. Mies (1996) observed that development manages to modernize patriarchy with grave consequences for women, particularly Third World women whose unpaid and low-paid labour has provided much of the basis for "modernization." With the change of the international division of labour based on the shift of manufacturing production to free zones and export platforms in the Third World, and the calls for "integrating women in development," young women have ended up being the optimal, and preferred, docile, cheap labour force (Beneria and Sen, 1997). Despite the fact that women who worked in factories obtained some independence due to their new source of income, Beneria and Sen, seem to agree that this process has been, in general, detrimental to women and to the popular classes of the Third World as a whole. For instance, the majority of these women working in precarious conditions have been forced to become part of the working class after the loss of their lands (Kelly, 1983). Furthermore, WID generally ignores the impact of cuts under Structural Adjustment on women's work. Cuts in basic services have increased women's responsibilities in the provision of food, clean water, education, health

care, elder care, housing, etc. This increase in unpaid labour by women undermines women's ability to gain, or to maintain, economic independence and social status.

B. Conceptual Framework

The analysis here is premised on the basis that the inequalities that Costa Rican rural women face stem from three factors:

1) *living in the peripheral world*, where the value of labour power is determined by conditions which maintain the cheapest labour force. According to neoclassical economics, workers are paid according to their productivity. These theories assume that assumed that Third World's productivity is low, particularly that of women's. In addition, raising the minimum wage in Third World countries would result in considerable loss of employment (transnational corporations will not invest in countries where the labour costs are perceived to be high). This theory ignores the structural conditions (periphery-centre) that resulted in deepening inequities between countries. It also ignores the deterioration of the quality of employment due IMF-WB policies during the debt crisis.

The deskilling of jobs in Third World countries have operated to generate an abundance of continually cheapening labour power. In addition, the IMF and WB policies has dismantled the labour legislation of the countries and replaced by a principle of abstract equality which legitimates the supremacy of capital over labour and reinforces the supremacy of men's productivity over women.

These policies are justified by the excessive costs of production created by labour instability, legal protection, employer contributions to social security, the high costs of layoffs and similar forms of state regulation of labour markets. These costs, argued by ... [the] reformers, reduce international competitiveness and profitability, discourage more productive investment and block the growth of employment. (Vilas, 1999: 19)

2) *Costa Rica's Social Structure*. The social structure of the country combines concentration of land and capital on one side and marginalization of the poorest sector of the country on the other side. Women's dependent situation is reproduced and reinforced using three

mechanism: a) poverty and inequality that the politics and the economic system reproduce which can be seen by the rate of unemployment, lack of land property and credit, low levels of education, no day care, poor health care, etc; b) the substantial influence of the church in the community; and, c) systemic gender discrimination expressed in women's lack of social and cultural rights.

Systemic discrimination is expressed in ignoring women's work at home and in the *fincas*. In Costa Rica, traditionally, resources from the credit system and the government have been channelled to men by male-oriented government agencies. For example, the Ministry of Agriculture and Livestock (MAG) organized workshops for men even in areas in which the majority of the work force is comprised of women. One example is the production of cheese, where women milk all of the cows and produce all of the cheese, *natillas* (soft cheese), and other derivatives (Davila, 1998b).

The increase of women's participation in the Population Economic Activities (PEA) did not lead to women's liberation. Women are subject to what Maria Mies (1996) calls "the housewifization of labour," referring to the fact that women's labour, in the casual and informal sector, is often not compensated at all. In the formal economy, women are the main labour force for the growing service sector, doing the most degraded, low-status, low-paid work. In some cases, holding a job for women may does not necessarily permit them live better.

3) *the authority structures within peasant households*. Women's rights at home and in the community are denied. Within peasant households fathers, brothers, and husbands are considered the main work force in agriculture. In a primary agricultural economy the family-based household is the site of production as well as of reproduction. Within this context, sexual division of labour conventionally allocates men and women to different roles in its productive activities as well as to parenting roles. The brunt of responsibilities falls more on women than men. Inequalities are reflected in the exclusion of women from the control of land. Men are the power-holders in terms of decision-making, control of assets and resources, and leadership. For instance, the board of directors of most organizations is mostly men, with women playing the role of secretary or reporter. In some cases, women's

participation is dependent on their husbands' permission (Davila, 1998). The presence of women in decision-making positions is very limited.

C. Abanico

1. Location

Abanico is a town located in the area of influence of the Arenal Conservation Area (ACA)-Huetar Norte. However, in order to support the work of the Abanico Medicinal Plant and Organic Agriculture Women's project, ACA-Tilaran made a decision to extend its territory in order to include the Abanico (Ulloa Gamboa, 1998). Therefore, Abanico became a part of Fortuna PWU.

Abanico is located between Fortuna and Chachagua. According to the *Centro de Salud-Chachagua* (Chachagua Health Centre) (1998), the town has 309 inhabitants, of whom 41.43 percent are women and 58.57 percent are men. There are more men in Abanico because they are the ones working agriculture, while many of the women are forced to migrate to the cities in search of work. Ninety-nine percent of the population is rural and depends on agriculture for their livelihood. The average family income is between c./30,000 and c./40,000 (US\$168 to \$210) monthly, which cannot buy much in the way of an average household's needs. The average size of households is 4.4 people.

2. Watershed Area

Abanico's name comes from its fan-shape. It is located between Rio Burrito and Quebrada Cristina. The soil is volcanic, with a high level of clay. The total surface is 520 (ha.) organized along 3.22 km² of gravel road. The weather is tropical-humid and the average temperature is 27°. The amount of rain is around 3,500 to 4,000 millilitres per year. In 1998, while I was collecting information, I learned that it was one of the hottest years which affected the start of the sowing time. The inhabitants do not remember ever having extended periods of drought.

Along both sides of the road, *laurel*, *melina*, *cedro* trees, papaya, medicinal plants, and *charrales* (bushes) grow. *Fincas* are built close to the road and some of them still conserve the originally allocated ten hectares; others have been parcelled and sold in two and three hectares plots.

3. Colonization History and Land Tenure

There is no documentation on Abanico's colonization. I conducted two interviews which led me to discover that Abanico was the site of the first land invasion that took place in Costa Rica. Landless peasants apparently invaded the Pinto *hacienda* (large parcel of land not being used) in 1960. The information that follows comes mainly from interviews conducted for this thesis. This information has never been studied or recorded before. Anaden Mora Costa was 12 years old when the invasion took place. She and her family participated in the invasion.

In 1960, 207 landless peasant families organized ourselves to invade the Pinto *hacienda*, a property of 1,500 hectares. We went into the *hacienda* and started building our houses. The police arrived with orders of eviction. We decided to stay there and confront the police. The police started to burn our houses and throw out our belongings. We confronted the police for two years, and some of us went to jail. However, when some members were jailed, other members continued the struggle. When prisoners were free, they went straight back to the invaded land. One night, around 7:00p.m the police arrived at Isabel Murillo's house. The young woman, whose parents were too sick to fight and had left the town, valiantly confronted the police surrounding her house. She was thrown out of the house and it was burned to the ground. She was left in the middle of a mountain without a house. She was helped by other members with whom she left for San Isidro, but the next day they came back to rebuild the house. Because her parents were old, she was the victim of police brutality many times. The number of women resisters were almost the same as the men, because they were mostly couples. (Mora Costa, Summer 1999)

Women's participation in this invasion made history. Many women, among them Flor Jimenez, Luisa Zuniga, Isabel Murillo, and Tulia Alvarado, confronted the police with sticks and stones. In the words of Anaden, "women defended the land with their own lives."

In 1961, the Orlich administration organized *Instituto de Tierras y Colonizacion* (ITCO) (Land and Colonization Institute) to regulate the land conflicts initiated on the Pinto *hacienda*. In 1962, ITCO bought the land and divided the *hacienda* into four *asentamientos* (settlements) *campesinos*: Ivco, La Cruz, Los Angeles, and Abanico. Each family obtained ten hectares of land and single men over 18 years old received seven hectares. No single woman received land; only single women with children received ten hectares. In 1982, ITCO became *Instituto de Desarrollo Agrario* (IDA) (Agrarian Development institute). IDA's mission, financed by international aid agencies, is to acquire land which can then be made available as "private property" to the rural poor in order for them to start productive projects. IDA is also in charge of land reform and conflict resolution. In the 1980s, these peasant settlements (Ivco, La Cruz, Los Angeles, and Abanico) were linked with Chachagua for administrative reasons. The five settlements (including Chacagua) became Colonia Trinidad, with total area of 2,548 hectares (much larger than the original Pinto *hacienda*).

Abanico covers 520 hectares, parcelled into 40 small plots of ten hectares each. Thirty-three landless peasants were the first colonists in Abanico. Eugenio Araya, President of the Abanico Association in 1998, was a pioneer settler and one of the three leaders of the invasion.

Abanico was a treed land and belonged to one owner who, in order to avoid taxes, had title only to the front of the land but not inside the land. We learned about this situation from a representative of parliament who knew about our need for land. He told us that we could have part of that land. Then, a group of landless people initiated a process of taking the land (*toma de tierra*), but our first attempt ended up with many of us in jail. However, we started building our houses until the government mediated because the situation was becoming out of hand. The government created a commission to solve the conflict. We cut the forest and cleared the land by ourselves. (Araya, Summer 1998)

The example of the Pinto *hacienda* served as an inspiration to other landless peasants in Guanacaste, Limon, and elsewhere to organize other *asentamientos campesinos*. The formation of Abanico, and the entire surrounding, was of historical significance because it

led to the informal organization of the poor and landless *campesinos* who continued to press for land.

4. Social Situation

During my interviews with the people of Abanico, it became clear that social differences had developed among the original land claimers of the 1960s, and the more recent land purchasers. Many later Abanico inhabitants bought land from the original invaders, some of whom were actually speculators. Their more expensive houses are built with cement, while the others used wood.

The community recognized three main problems:

- 1) Individualism impedes collective organization.

- 2) The abuse of agro-chemicals. The use of the agro-chemical technological package including chemicals such as *tamaron*, *counter*, *butamar*, *piton*, *quirol*, etc., (Alfaro, 1998), all of which produce residues, new pest infestations, and sickness in the community. These chemicals are absorbed by inhalation or simply through the skin. Workers (usually men) do not use protection when they apply the toxic chemicals. The chemicals' containers are usually rusty and the liquid spreads over the workers' clothes and skin. These men are fathers who carried their children, without washing their hands or changing their clothes. The chemical exploitation of the agrarian land through the technological package is intertwined with the degradation of nature that affects health, particularly children's health. Children suffer high levels of asthma and other sicknesses. Some men are becoming aware of the health hazard, but they argue that the market forces them to produce with chemicals. The abuse of *veneno* (poison), as agro-chemicals are called, is the cause of plagues and sickness in roots and tubers. To cure them, MAG agronomic experts advise more agro-chemical use. Water pollution by the excessive use of pesticides is also serious problem. Heavy rains wash agro-chemicals into the rivers and roads. Unfortunately, the community is *not* aware that the chemicals are also contaminating their water sources.

3) The rise in the level of indebtedness. Liberalization of the banking sector contributes to the peasants' economic instability. *Campesinas/os* are deeply indebted. Loans have high interest rates, such as 25.5 percent from the bank, 20 percent through the Arenal Project. and ANDAR charges from 27 percent to 33 percent. This practically amounts to indentured labour and loan-sharking. In addition, government officials such as MAG agronomic experts, often give the *campesinos* incorrect advice on what to plant, because in a market economy nobody knows a priori what the result will be. In 1998, government technicians advised *campesinos* to plant ginger, and overproduction put most of *campesinos* in debt. They had not had the time to recover when in 1999, technicians advised planting *palmito*, and once again overproduction dropped the prices. Overproduction affects every *campesino/a* in general. This make them sell products at less than the cost of production. Their inability to pay down their debt puts their land at permanent risk of being seized.

The town had a health centre that the government closed as a result of the Structural Adjustment Programs (SAP) that had been in place since 1982. The closest health centre is now located in Chachagua, a 40-minute walk to the main road, then tne minutes by bus. There is one school and two teachers who are in charge of all grades, from one to six. The education level of the people in the town varies from grade three to grade six. Some had incomplete secondary school education and fewer still had managed to complete secondary school. The illiteracy rate is 4.5 percent (*Centro de Salud-Chachagua*) which is less than the national illiteracy rate of 5.8 percent in 1992.

Women's life is constrained by hierarchical and authoritarian social forms, springing from the authoritarian structure of the society. Within this structure, relationships of dependence and submission are the norm. One simple example will show women's lack of basic rights: the right to mobility. The lack of electricity on the streets prevents women walking outside of the *fincas* after dark. By 6:00p.m, all women are in their homes. This restriction limits all forms of participation for women who do not own transportation. This fact is very significant since the community is located in the region that produces 60 percent of the country's hydro power and the region is known as Costa Rica's energy capital.

5. Land Use

Agricultural land use depends on the individual *finca* owner. Major crops are plantain, papaya, *tiquisque* (tuber), ginger, *nampi* (tuber), chile, yucca. All the producers are engaged in intensive agriculture, characterized by the use of machinery to prepare the soil and the use of high levels of agro-chemicals such as fertilizers, herbicides, nematicides, fungicides, and insecticides (Alfaro, 1998). The excess use of machinery is believed to be affecting the soil structure and the crop output, while the excess of agro-chemicals is believed to be affecting the health of the children and adults.

Abanico's peasants take into account MAG and MINAE goals. MAG pays attention to non-traditional agro-exports while MINAE emphasizes timber production through forestry incentive programs. Abanico's families and their children's families all live within the ten (ha.) of land originally allotted to them. Abanico's land is very small for the intensive forestry program that MINAE require. Only steep slopes are reforested, and tree plantations require between 10 to 15 years to grow before any income can be obtained. Experts believe that not growing trees is a matter of culture, but the real reason is that peasants are annual cash croppers, which is their only source of income and livelihood.

There are two other productive systems in Abanico, as well as the Abanico Medicinal Plants and Organic Agriculture Project, which is the subject of this case study. These are reforestation, roots and tubers; and, bananas, roots and tubers.

1) Reforestation, roots and tubers. Reforestation is used by the *campesino* to obtain a small income. Under the forestry incentive program they receive c./120,000 (CDN\$67.20) per hectare annually if they do not cut down the trees. To participate in the program, *campesinos* plant *melina*, a fast growing tree. Reforesters also produce ginger, *tiquisque* and *nampi*, important roots and tubers exported to Miami.

2) Bananas, roots and tubers. Bananas are produced throughout the whole year, and are in permanent demand. PROUDESA packing factory contracts local peasants to grow the bananas.

It provides for the collection, the transportation and the delivery to the markets. It collects the bananas using a two-box system: red boxes for first-class bananas and green boxes for second-class bananas. First-class bananas cost c./15 and c./17 each while second-class bananas cost c./10. First-class bananas are exported mainly to Holland and England; second-class bananas are sold in weekly *ferias* (Alfaro, 1999). They also produce ginger, *tiquisque*, *nampi* and yucca which is exported to Miami.

Fincas could be food self-sufficient but they are not. Their basic food stuffs (rice, beans, tomatoes, and cabbage) eaten daily are bought in the market. Since their main production is intended for the international market through the packing factories, *campesinos/as* are dependent on the market for their own consumption. Costa Rica imports its food grain mainly from the U.S. Policies to import grain are justified because of the lower cost than domestically-produced grain. Food production lands are diverted to produce cash crops that can be exported. In this way government policies, under IMF and WB advice, reduced support for domestic consumption, transferring Abanico's food security to the international markets. For instances, the import of beans meant the death of a good environmental practice, namely *frijol tapado*. *Frijol tapado* is a system whereby seeds are broadcast into recently cut secondary vegetation. The system requires minimal external inputs and labour, assures food security, reduces erosion, retains soil moisture, conserves biodiversity in situ, produces savings by reducing the need to purchase beans which is part of the Costa Rican daily diet (Melendez, 1998). Many families used to follow this practice and do not any longer.

D. Medicinal Plants and Organic Agriculture

1. Medicinal Plants

Women's work is devalued because their work cooperates with nature's processes and, in economic development, nature traditionally has no value (Mies and Shiva, 1993). Women's role in developing and conserving biodiversity is seen as non-work and non-knowledge. However, women's work and knowledge has been central to biodiversity conservation and utilization. Medicinal plants, in rain forest areas, have been grown by rural women since

times immemorial. Traditionally, rural women were the keepers of medicinal knowledge and plants. In the past, most rural women grew medicinal plants around their homes because they used the plants to cure their families' ailments. Thus, medicinal plants represented their own health.

Modernization and the green revolution removed women from their work as medicinal plant keepers, but the debt crisis, expressed in the permanent devaluation of the currency and inflation, forced rural women to return to the cultivation of medicinal plants. "When we could not afford basic food, because the income of our husbands and parents were not enough to feed our families, we discovered the value of medicinal plants and we went back to what our grandmothers knew" (Rosita, 1999). Medicinal plants became a source of income for these women.

An important part of the cultural tradition, the selection of varieties, was lost with green revolution generations. Medicinal plants in rural areas were traditionally produced for a family's consumption, that is, they had no exchange value but only use value. Men were not privy to that knowledge, but they accepted the *cocimientos* prepared by the women, i.e., the combination of plants for healing purposes. Few women, from the green revolution generation preserved the balance and harmony between the monoculture of their husbands' fields and the plots in which they cultivated their own medicinal plants. Some of the women remember clearly using medicinal plants to improve the deteriorating health of family members.

Women who work with medicinal plants can identify more than 60 wild medicinal plants and herbs. They also have the knowledge to make *cocimientos*. They use *tilo* for a nervous breakdown; mint as a digestive and relaxant; *juanilama* for rheumatism and arthritis; *zacate limon* for cleaning the respiratory system; *sauco* for asthma and bronchitis; *reina de la noche* flower as a bug repellent; *salvia virgen* for allergies; *gavilana* leaves are used as an insecticide and fungicide; *inciense* for relaxation and a repellent; *albahaca verde* and *morada* for ear aches, digestion, and as a dressing; *sabila* for burns, insect bites, hair growth, gastric cancer; ginger for influenza; oregano for seasoning, bronchitis, asthma, and menstrual

cramps; *diente de leon* for energy; *llanten* for kidney and cataracts; *hojas de sen* for constipation; *saragundi* for arthritis and rheumatism; *romero* for headaches, as an anti-inflammatory and for hair growth; eucalyptus for sinusitis and asthma; *verbena* for depression and hysteria; *calendula* is a natural antibiotic used for inflammation; *azul de mata* for wound and bleaching; *ruda* for headache and other pains (it is also used as an abortive); *hierba buena* for stomach aches; *calzoncillo* for the kidney; *hombre grande* for the liver and as an insecticide; *sarza parrilla* as a regulator for blood pressure; *jamaica* for pastry making and the regulation of blood pressure; *naranjo agrio* for depression and nervous breakdown; papaya for liver and digestion; *culantro coyote* for anaemia and seasoning; *flortiga* for back pain; *madero negro* for allergies, acne, and diarrhea; *mastuerzo* for diarrhea, haemorrhoids, and inflammation; *ortiga* for menstrual pain; *carambola* for fibre, kidneys, and diarrhea; *cipres* for prostate, and as a hair strengthener; *cucaracha* for increasing milk in lactating mothers, and for diabetes; *chinitas* for allergies; *chirca* for rheumatism; *guitite* for dandruff, allergies, and blackheads; *hojas de guayaba* for diarrhea and as a toothpaste; *hojas del aire* for headaches and other pains; *siete hierbas* for gland stimulation; *gotukola* for memory. Having grown medicinal plants for centuries, women have acquired skills and the knowledge of seeds, soil preparation, and appropriate growing seasons. Since medicinal plants and organic agriculture have been mainstreamed as ecologically sound, women have returned to their ancestral knowledge. With the help of *Centro Nacional de Accion Pastoral* (CENAP) (National Centre for Pastoral Action), rural women began, once again, to grow medicinal plants organically. They learned the techniques of organic production through workshops and plant exchange organized by CENAP.

Organized into micro-enterprises, medicinal plants become commodities and the women become commodity producers. Medicinal plants are located in an entirely different world, the commodity world, where profit is the only value. When the medicinal plants become products for the market, they lose their biological, social, ethical, and cultural value to become mainly an economic value.

In the process of commodification, medicinal plants lose some of their potential, because of the loss of wild surroundings and different exposures of sunlight make changes to their

chemical properties. According to Celso Alvarado, MINAE biologist, the best biodiversity management is done by nature, in situ:

Regarding medicinal plants, the indigenous populations do not domesticate many plants. When plants are domesticated and planted in monoculture crops, they are deprived of species association and the destruction of their inherent properties starts. A plant in its natural ecosystem is interacting with other plants and its abiotic resource (soil, water, light); therefore, the plant conserves its properties as a natural defence. Its genetic strength is more active and dynamic against its predators. Furthermore, when medicinal plants are sown in prepared land pests proliferate. These are the reasons why Indigenous populations obtain the species and its properties directly from the ecosystem for healing purposes. (Alvarado, Summer 1998)

Therefore, producing medicinal plants as monoculture crops does not mean sustainability, because it implies genetic erosion.

By 1995, using women's traditional knowledge about medicinal plants, governments and NGOs developed micro-enterprises. One positive aspect is that rural women found an opportunity to obtain an income, and to meet other women in working groups. In working groups, education and training are collective. It is in the collective work that women found support in each other. In the process of training and education, women learn, as Rosita puts it, that discovering what to sell in the markets is not enough. Women need to overcome three obstacles: first, to learn to believe in their own potential and how to make decisions by themselves; second, how to improve their low level of education; and, third, they have to overcome the high level of individualism typical of the pioneers.

2. Organic Agriculture

Why organic agriculture? The Abanico project is geared to providing organic food to the growing number of international consumers. According to the new market preference, organic food is a growing market under which, supposedly, economic growth of rural areas will benefit.

Organic agriculture experience comes from traditional agriculture, characterized by the use of regional inputs. Organic agriculture is a productive system that avoids the use of agro-chemicals and growth regulators. However, organic agriculture is not a policy that should be associated with correcting structural and environmental problems produced by the green revolution. The problems that the green revolution generated are land degradation and growing inequality in the distribution of productive resources. Land degradation was achieved by the massive use of agro-chemicals for monoculture production. Inequality was increased because small land owners (such as *campesinos/as*) did not receive the support they needed from the state. State policies supported only modernized producers. In an ideological sense, many of the development programs are based on the assumption that peasants are intrinsically conservative and culturally backward. Their traditional management systems, such as intercropping and agroforestry are seen as obstacles to modernization (Nygren, 1995: 124).

Organic production is not necessarily practised with attention to the conservation processes. Although the use of agro-chemicals are prohibited by the by organic production regulations, it can become another form of monoculture production (as development programs have encouraged all along) and its philosophy is equal to that of the green revolution. Organic agriculture is different from ecological agriculture, which maximizes efficient vegetable diversification (in time and space), uses techniques based on traditional technologies, and rescues and conserves soil, water, and local species (Astier, 1998).

Why are rural women the preferred work force in organic agriculture? First of all, their mothers and grandmothers have the knowledge and the practice of traditional agro-ecologic methods and they are located in strategic zones. However, mainly, organic agriculture is labour intensive and low in inputs (and therefore, considered, appropriate women's work). Nevertheless, the requirements for organic production are not easy to fulfil because of anti-agriculture policies, women's socio-economic marginalization, and environmental degradation.

E. Organizing the Abanico Medicinal Plants and Organic Agriculture Project

In 1994, the Arenal Project contacted ANDAR to organize a gender strategy for the Arenal Conservation Area (ACA). In 1995, the *Centro de Capacitacion para el Desarrollo* (CECADE) (Centre for Training and Education for Development), a local NGO, using international funds, organized GEMA. “GEMA needed to develop a productive activity and have an income, and particularly they needed to develop an alternative for their daughters who do not have any option than to work in the packing factories” (Madden, Summer 1999).

ANDAR, contacted by CECADE, proposed to GEMA the idea of growing medicinal plants. “When ANDAR proposed the medicinal plant project we agreed, because we already were growing the plants and had knowledge about them” (Zacate Limon, Summer 1998).

The Abanico Medicinal Plant and Organic Agriculture Project was born in 1996. ANDAR defines the medicinal plant project as a *campesina*-small family business development alternative within the globalization frame, that will foster community economic welfare in a sustainable environment with gender equality (*Asociacion* ANDAR, 1996: 9). According to ANDAR, the women’s project must be supported by the whole family, “because the practice has taught us that the whole family contribution is fundamental in the development of this [micro-enterprise] project (sons/daughters, husbands, partners, friends, and other family members); that is why it is a family project” (*Asociacion* ANDAR, 1996: 9).

1. ANDAR’s Gender Approach and Sustainable Development Mission

ANDAR’s mission is to promote the development of small- and medium-size producers in Costa Rica’s rural areas, through credits, education and training (*capacitation*), technical assistance, and commercialization (*Asociacion* ANDAR, 1996). Sustainable development and gender equity are aimed at generating employment and income in the rural areas through micro-enterprise projects. Integrating Women in Development programs means getting women to work in income-generating activities, that is, to enter market-export oriented

production to earn an income. “The program, Women in Development, requires access to resources, education, training, and empowerment by law. In Costa Rica we have just laws without enforcement to protect women” (Madden, Summer 1999).

As women’s programs have no government resources, NGOs are using debt-for-nature investments as a credit source to initiate income-generating activities in the women’s sector. Because rural women are in disadvantageous circumstances with no income, they have to produce something for people who have money. People with money live in San Jose, or in the industrialized countries.

ANDAR grouped communities into five regions, called local boards for sustainable development and organized credit committees: Los Chiles, Santa Rosa de Pocosol, Guatuso, Fortuna, Pital. Abanico de Chachagua is included in Fortuna’s *Consejo Local de Desarrollo Sostenible* (Local Council of Sustainable Development). For Liddiette Madden, ANDAR’s director,

Sustainable development is a definition that originated in the international cooperation community, where Costa Rica’s governments are not clear in what the sustainable development strategy will achieve. We, as an NGO, don’t know either, because there are so many actors involved. Whatever it is, it is a long-term process that implies the change of structures of the country, the change of culture patterns, and access to technology. As a country we need to work harder because we do not have the technology needed to change from raw material producers to industrial producer. The state has no resources and no guidelines to embark on a sustainable development direction. Right now we have the program of productive reconversion but that is not enough. (Madden, Summer 1999)

However, micro-enterprises become the sustainable development model. The micro-enterprises are economic units that operate in the market. For any enterprise operating in the market, access to production factors are crucial. The difficulties in accessing credits make micro-enterprises labour-intensive. Participants in micro-enterprises are poor and with no chances to overcome poverty because of low levels of capital and low qualifications. Micro-enterprises usually only get small amounts of capital from government and from NGOs.

ANDAR has a *Fondo Rotativo de Credito* (Rotating Credit Fund) to make loans to women and men who are not considered credit-worthy by the commercial banking system. The goal of credit is to channel timely and suitable resources to the ones who can pay back the credits. The goal of education-training (*capacitation*) is to promote reflection on gender relations with the intention of increasing women's participation in organizations and in society. The goal of marketing is to channel information on national and international markets for agricultural products, and on institutional support for the rural areas. The marketing services act as an essential element to the credit and education-training (*capacitation*) received.

Before developing micro-enterprises in Fortuna PWU, ANDAR made an analysis of the gender division of labour in two communities of the area: Z-Trece (agriculture-tourism) and El Castillo (livestock and cheese production). The ANDAR team concluded that in those communities:

- a) the household work was mainly assumed by women, despite the work they do in agriculture or livestock. The household activity done by men was occasional and they were assumed to be merely helpers;
- b) women's community work was quiet and hidden. Women, like the men in the household, presumed themselves to be merely helpers because they are not included at the decision-making level;
- c) the income obtained by the family, earned by women, children, and men (agriculture-livestock) was perceived as men's income. Therefore, neither women nor children took part in the decision-making process on what to produce; and
- d) only when women work outside of the house, particularly in the service sector such as restaurants and hotels, are they considered to be wage-earners (*Asociacion ANDAR, 1996; Ulloa Gamboa, 1996a*).

Furthermore, ANDAR examined the practice of the poor and concluded that:

- 1) the organization, negotiation, and self-management (*auto-gestion*) for sustainable production, was weak, among both men and women;
- 2) *campesina* women's participation in the local committees for sustainable development was almost non-existent. They had neither access to, nor control of, development resources, and their contributions and knowledge were unrecognized and devalued;
- 3) natural resources were not being used in a sustainable way by the *campesina/o* (*Asociacion* ANDAR, 1996; Ulloa Gamboa, 1996a).

The description of the gender division of labour in the two communities mentioned above was regarded as gender analysis and the practice of the poor was regarded as unsustainable. Therefore women and poor people were considered in need of sustainable development.

ANDAR, in conjunction with GEMA, organized individual micro-entreprise projects on the cultivation of medicinal plants and organic agriculture. ANDAR provided individual credits to GEMA at an interest rate 33 percent. ANDAR was constituted as the commercial entity between the producers and the market. This structure created a particular kind of link between the women's group and the NGO, ANDAR. ANDAR's education and training (*capacitation*) formed the gender strategy, and the commodification of women's work became the strategic gender means to this end, while micro-enterprises become the sustainable development model.

2. The Arenal Project and the Gender Approach

The gender strategy of the Arenal Project was prepared by *Asociacion* ANDAR of Costa Rica, and is described in the document "*Propuestas de Lineamientos Estrategicos Generales y Especificos para la Incorporacion Progresiva de la Perspectiva del Enfoque de Genero en el Desarrollo de las Acciones del ACA-MINAE y de las Macro-instancias del ACA-1995*" (Proposed General and Specific Strategic Guidelines to Progressively Incorporate Gender Equity into Development of ACA-MINAE's Actions and ACA's Macro-entities, 1995). In

addition a listing of a number of limitations that women in the ACA confront was prepared by Lorena Davila (1998a) in a paper entitled "*Situacion Actual, Perspectivas y Retos del Enfoque de Genero para el ACA*" (Current Situation, Perspectives and Challenges in ACA on the Gender Approach).

The Arenal Project of the WWF-C is a CIDA project, and CIDA's gender policy requires that women and development and gender equity be universal elements in all projects and programs. But the same policy recognizes there is a need for more guidelines in operationalizing the WID and gender equity policies. Therefore, there are diverse ways to deal with WID and gender equity.

WID is one strategic component in Phase II of the Arenal Project. The component explicitly supports the execution of the WID strategy in each PWU. Gender in development is defined as a space for analysis, reflection, and theoretical-practice construction about the daily life of the subjects involved in the socio-productive and environmental process of ACA. That space ostensibly was going to initiate a reconstruction process or the construction of new forms of gender relations based on equality, equity, and autonomous perspectives (*Propuesta*, 1996).

The WID program in ACA relies on the personal commitment of one woman, who is in charge of two projects (the Bijagua PWU and the gender strategy), while the men working in the Arenal Project are in charge of just one PWU). This same woman is in charge of four levels of the Arenal Project's WID program:

- educate ACA's personnel;
- educate PWU rural communities;
- educate local producers involved in ACA;
- educate NGOs linked with the Arenal Project.

Basically, the Arenal Project, like ANDAR, promotes sustainable development through the micro-enterprise model. It is within those goals that WID became an issue. Since 1997, the only woman employee of the Project also became a officer-member of the Arenal Project

Credit Committee that provides the funds to the micro-enterprises. From there, she invited its members to reflect on the need for women's access to credit within the equity principle:

The assessment to obtain credits used the same criteria for women and men. The document did not recognize women's inequality, subordination, household responsibilities, and reproductive responsibilities. For men, it is easy to access credit because they are the landowners, but not women. There were instances where funding requests were denied because the guidelines did not embrace gender equity. (Davila, Summer 1998b)

The Arenal Project, using the funds of debt-for-nature investments, provided the Abanico women's group with 700,000 *colones* (CDN\$3,640) to set up the Abanico Medicinal Plant and Organic Agriculture project. The interest rate was 20 percent; and interest payment of the loan for one year was 352,250.96 *colones* (CDN\$1,831), 50 percent of the initial loan. The Arenal Project's expectations for the Abanico project are "to exploit the natural resources of the area and to insert women's work in a kind of production that permits women to have a role in the local community and regional area" (Isidoro, Summer 1998).

F. Economic Structure of the Abanico Project

ANDAR, supported by Dutch debt-for-nature investment, controls each of the three main aspects of the Abanico Project: investment, marketing, and credit.

a) *Productive investment.* A credit from the Arenal Project provided the initial capital investment for the GEMA Medicinal Plants and Organic Agriculture Project. The loan of c./700,000 at 20 percent interest was distributed among the ten members, which corresponded to c./70,000 each (or, CDN\$392). (One individual who received the credit is no longer a member of the group.)

The major productive investment in medicinal plant cultivation and organic production is a huge outlay of free labour power. The internal structure of the families and the level of unemployment allows women to use other family members as well. This could be understood as the entire family serving as reserve labour force for the micro-enterprise. In addition,

women provide the land, and the small amounts spent on agricultural inputs (such as organic fertilizers).

Other productive investments involved are:

1) from the government side, each member received a donation of c./100,000 from IMAS to pay for the plastic the drying *secadoras* use to dry the leaves through solar energy. The donation was supplemented by the free wood and the free family labour from the *fincas* to build the *secadoras*;

2) ANDAR provided credits to the producers (for *secadora* accessories and irrigation systems) at 33 percent interest;

3) ANDAR in association with the Department of Physics of the National University, through a Dutch–Costa Rica Covenant, has been developing solar system *secadoras*. Two researchers of the project visit and test ways of avoiding problems during the *secado* (drying) period, such as the burning of the leaves. They also designed *secadores* with electric ventilation for the group;

4) an ANDAR agricultural technician visited the women's plots once a week during 1999.

b) *Marketing activity* links the women's group and ANDAR in a particular relationship. The marketing is monopolized by ANDAR. ANDAR provides for the collection, transportation, and the delivery to the markets of the group's products. It collects and weighs the dry leaves once a month at the women's plot. ANDAR typically pays these women a month after they collect the dry leaves. It is always possible for them to claim that they have experienced a loss and to pay them less than they had promised because leaves' weight loss during the drying process. The marketing activity permits the exercise of a high degree of pressure and social control over the women's group because ANDAR is the only buyer. It also permits the transfer of part of the losses they might incur to the *campesina*. Officially, ANDAR gets a percentage for the marketing of the plants to cover their expenses. But, the percentage ANDAR takes from

the sale of some of the plants is almost half of what the producers finally obtain. ANDAR sells the leaves to enterprises such as Manzate, Los Patitos, Hierberia Tres Americas, Kabata, Diploma, and Mondaisa (mostly tea manufacturers).

c) *Provision of credit* is organized around ANDAR, which controls the marketing, the knowledge, and the network for obtaining funds. ANDAR gives personal credit to women to buy instruments of production (i.e., irrigation systems). ANDAR secures the return of the credit given to the women for these purchases by taking a portion of the sale of the medicinal plants (on top of whatever other commission they are receiving when the plants are traded on the market). The amount appropriated monthly depends on the individual arrangements made with ANDAR. In this way, Abanico women are dependent on the politics of ANDAR. In 1999, ANDAR's agronomist began to control the ways in which the plot is worked, and particularly, he secured that the harvest is sold only to ANDAR (which then fixes the prices for the market).

Since the micro-enterprise model is defined as income-generating-activity, it must be geared to the international market. The Abanico Medicinal Plant and Agricultural Project can only be developed in dependent structures, because the local group (GEMA) running the project does not have all the skills necessary to negotiate the outside world, to make contacts with the North American and European markets, nor have an understanding of where their products are expected to be sold. The micro-enterprise model is designed in such a way that producers (the women) are trapped into selling their harvests at low prices and at below production cost. They are at the mercy of the NGO (ANDAR) that delivers the product to the market and not only fixes the market price, but determines the commission that they will take for doing so (often as high as 50 percent). The model encourages the group to borrow funds for necessary equipment and tools to keep the micro-enterprise producing. They are again held at the mercy of the NGO (ANDAR) who sets the interest rates (which are exorbitant—33 percent) for the loans the group needs in order to continue cultivating their products. This system effectively keeps the group dependent on a structure that exploits their labour, and keeps them impoverished (there is not much money left after the commission and interest rates are paid). Thus, the micro-enterprise model perpetuates women's labour as housewives,

because the Medicinal Plant and Organic Agriculture project is seen as an extension of women's work in the home and not as the legitimate work of farmers. The members of GEMA and their families' work in this income-generating project is devalued and controlled because they are isolated and unorganized. It begs the question of who in fact is benefitting from the so-called "income-generating" project.

G. Conclusion

In the effort to keep the growth model going, sustainable development recognized gender relations as a central aspect to overcome if women are to be taken into account and incorporated into the market successfully. With women integrated into development the exploitation of rural women's working capacity increases exponentially. Thus, the increase of women's participation in *Poblacion Economicamente Activa* (PEA) (Economically Active Population) has never led to their emancipation, and in fact, one might argue, has increased their vulnerability to abuse and exploitation.

The structure of the GEMA micro-enterprise (organized, managed, and controlled by ANDAR) and the market approach, makes women's inclusion in sustainable development problematic. In the attempt to give women an income, the members of the group have become more dependent on forces over which they have no control, namely the international markets, and the dictates of the NGO. Non-traditional agriculture cannot be expected to have different economically and socially sustainable outcomes if no attention is paid to the underlying structures of power and domination in resource access and control at local, national, and international levels. Women in development initiatives cannot be expected to enhance rural women's situation if the unequal distribution of resources between men and women is ignored.

Chapter Eight
**Women`s Work and Resources in the Abanico Medicinal Plant
and Organic Agriculture Project**

A. Research With GEMA

I conducted feminist Participatory Action Research with the GEMA group in Abanico. Participants discovered their own experience as they spoke, identified with each other as they listened, and built their capacities for action (See Appendix 4).

The participants of the Abanico Medicinal Plant and Organic Agriculture project are the nine members of *the Grupo Ecologico de Mujeres de Abanico (GEMA)* (Abanico Women`s Ecological Group). The participants` real names are used in the tables presented in this Chapter. However, when a woman is quoted in the text, she is referred to by a pseudonym. I gave each of them the name medicinal plant. These are: Zacate Limon, Oregano, Juanilama, Tilo, Menta, Hierba Buena, Albahaca, Savila, Zaragundi. Any individual quotes by the members of this group are referred to by their alias.

The members are between 28 and 50 years old; seven of them are married and two are single. The married women live and work their plot on the *fincas* of their husbands, while the single women live with their parents and work their plot on their parents` *finca*. The land holdings of the women`s families vary from two hectares to ten hectares. The amount of land used by women in their own projects varies from 500 sq. metres to 1,500 sq. metres. The members of GEMA grow their organic crops on these small plots situated in the middle of the agro-chemical-based production their fathers, husbands, and in-laws operate.

When I arrived in Abanico, the women in the group in some way sensed that they were working far more hours than they were being recompensed. They explained that this was for them a crucial issue, and when they proposed this theme they become subjects of their own research. In participating in the research both the women and I learned a great deal.

The material is based on my own fieldwork data, collected during the summer of 1998, which consist of 60 hours of tape-recorded interviews and 150 pages of written field notes. Intensive interviews were carried out with all nine members of the GEMA group involved in the research. The interviews were made using a small tape-recorder. I had some structured basic questions, but the interviews themselves were open-ended. The process of obtaining data was important for the women working in the project. We met twice a week with the whole group over a period of four weeks. Meeting twice a week meant an extraordinary commitment of time for the group but they were eager to know about the relation between the amount of work they do and the amount of income they earn. In the first group meeting, I explained the methodology of counting the work hours, using one of the members as an example. The work-time included their own, that of their husbands, parents, siblings, and children 12 years and older.

The steps taken by the group to count their work hours were:

- a) to decide to use their work in the cultivation of *tilo*, which is the one medicinal plant they all grow and the man plant that ANDAR is interesting in buying;
- b) to limit the study period to three months, which is the time that *tilo* needs to grow to maturity;
- c) to define every process that takes place from the sowing of the seeds to the harvesting of the plants; and
- d) to describe the different types of labour involved in the three-month period.

Part of the data gathering occurred outside of the group meetings, several times at Zacate Limon's plot, because my lack of understanding of the different types of labour involved, required that I actually watch the women throughout the process. During the second group meeting, we all examined the hours worked in the women's plots. In the second week, we examined their daily household work. They defined the items that the household work

measurement should contain. On the third week, we prepared the table on access to and control of the community resources. On the fourth week, we discussed the results. All this was done collectively.

During the individual interviews, I became aware that the group was having problems with their president. Yet, the president of the group was re-elected for a second term and I could not understand why. Reading my notes, I noticed the sequence of the problems identified by the majority of the members, although they all agreed that she loves the group and works hard for the group. The problems were as follows:

- communication difficulties between the group and the president who was not able to express her ideas in a coherent way;
- fear of speaking out before the president spoke about an issue because there was a belief that if she was in disagreement nothing would go further;
- the president had an unmethodical way of dealing with the business of the group that created uneasiness because of the non-existence of invoices;
- discrimination against some members of the group who had been overlooked in the process of distributing donations, while a family member of the president, without being part of the group, was favoured;
- discomfort created against members who were not supportive of the president's decision-making.

In the process of conducting the research, I organized a meeting to talk about the GEMA's problems. The president was unable to attend because she was preparing her daughter's wedding. In the final analysis, there was disagreement among the others about the president's activities. Some members argued that until group members had the courage to speak out, they would be at the mercy of the president. Others said that it is customary for the president to do everything for everyone which was why, despite their criticisms, the group decided to vote for her as president again. I proposed that the group rotate the presidency in alphabetical order to give everyone in the group the opportunity to learn about group administration. After an afternoon discussion, the members of the group showed fear of being elected as presidents because of the time involved, their lack of personal connections, and an apprehension to

speaking publicly. It appeared that the current president was the only one willing to take on the responsibility of the group. However, despite their hesitation, they finally agreed to start rotating the presidency and changing the position every six months until all became knowledgeable in the task.

I ran into the president the day I was leaving. She said, "Thank you very much for the patience you have with the group. I never thought that they were going to become independent. I always believed that without my presence you would not be able to meet with them. I was wrong". I had the impression that Tilo's absence at group meetings permitted open discussions about the group's problems.

In 1999, I returned to Abanico to follow-up the work I had begun the summer before, and to present the group with my report. GEMA's president, Tilo, was in the U.S. (on personal business) at the time and Menta was the acting president. GEMA, under pressure from the Ministry of Agriculture and Livestock (MAG) that acted as ANDAR's collection agency, was in charge of the kitchen of the weekly Friday's *feria* (market) in Fortuna to raise the money to pay the loan they received from ANDAR to buy an old house that could serve as their meeting place as well as a site for selling their plants. This pressure from MAG intensified their labour exponentially. Unfortunately, as this was occurring in 1999, this chapter does not include an analysis of this extension of their labour.

This chapter presents an empirical evaluation of the women's labour (paid and unpaid) on their plots, in their households, and in the community. It also assesses the disadvantages and advantages of the Medicinal Plants and Organic Agriculture project for the Abanico women.

During my research, I became involved in a struggle for the recognition of the long working day of the women involved in medicinal plant and organic cultivation, which I report in the Epilogue (see Appendix 4). My research made the group of women working in the Abanico Medicinal Plant and Organic Agriculture project and the *Consejo Nacional de Produccion* (CNP) (National Production Council), a government institution, aware of the working conditions of this particular group, particularly in terms of their long working hours. I have

presented my findings and discussed the issue with government officials and the group of women involved because it was my obligation to do so.

B. Social and Economic Situation of GEMA's Participants

Abanico women have been marginal to market production but important as resources and inputs on the farms. As marginal workers they were dispersed. Until women became organized nothing was happening in monetary terms in their lives. Only one woman of the town was very active inside and outside of the community. "When one day I heard about the existence of some money for organized women who wanted to become micro-entrepreneurs, I proposed to organize a women's group to become beneficiaries and have jobs" (Tilo).

GEMA's members work extremely hard. Women isolated in organic-growing experiments require a great deal of courage because it is labour-intensive. "The work is hard, because we work with machetes, not with herbicides for weeding (*deshiervar*), and most of the work day is spent weeding (*deshiervando*)" (Juanilama).

Despite the hard work, GEMA has made gains such as achieving organic certification through *Asociacion Regional de Agricultores Organicos* (ARAO) (Regional Association of Organic Agriculture). ARAO was constituted in 1997. The certification aims for better prices for the plants. All members want their land certified as organic; some of them failed on their first attempt, but others achieved organic certification. This means that their land was analyzed and deemed qualified for sale of its products in the international market.

The GEMA women may have access to the land they need, but they lack control of the land where they live and work, because it belongs to either their husbands, parents, or in-laws. This makes them vulnerable to their father's/husband's/father-in-law's decisions about how the land will be used. Two women of the group have recently experienced a reduction in the size of the plot they were assigned to cultivate due to their husband's and father-in-law's debt and subsequent decisions to sell the land because of lost agricultural production.

The owner of the land is my husband. He had 15 *manzanas* (a *manzana* is less than half a hectare). He got credit from the bank, but his agriculture didn't produce what he expected, because of the weather. To pay his debt, he sold half of the land, otherwise the bank would have seized it all. To avoid the sale of the land where I have been growing my medicinal plants, I had to fight with my husband and the land's buyers. My husband was ready to sell the whole plot and I told the buyers, I never was involved in my husband's business, but this time my medicinal plants are involved. I do not want him to sell that part of the land. I believe that they felt sorry for me, because they only bought half of the land and we can manage to survive. (Juanilama)

C. Women's Income-Generating Work

The work of cultivating a plot is demanding. A typical day starts around 5:30 a.m. when the women cut, select, and clean the leaves of the medicinal plants. Between 8:30 and 9:00, they spread them in the *secador* (a solar-heated hut where the leaves are dried) because after 9:00 the *secador* becomes too hot to work inside. When they do not cut plants (because the *secador* is full) they pull weeds (pulling weeds by hand takes almost the whole day), prepare natural fertilizers (using *gavilana*, garlic and onions), fruit fertilizers (using *guayaba*, papaya, *camote*, etc.) and lay down seed beds.

Table 15, following, shows the time spent by each member on each of the tasks the group identified.

Table 15

TILO - Growing Process and Number of Hours that Women and Their Families Laboured in a Three Month Period

Task	GEMA Group					
	Josefa	Julia	Odilie/Irma	IrmaA/d.	Maria	Lorena
Ploughing	2	1.5	*	1.5	1	1
Digging- <i>paleado</i>	70	50	144	75		24
Preparing seedbed			40			
Hand ploughing- <i>eras</i>	80	48	**	**	125	
Sowing	5	4	96	150	45	20
Irrigation	occasional			occasional		
Fertilizer preparation	3.5	3.5	6	3.5	3.5	from ARAO
Weeding (hrs/wk + total)	480	360	180	360	360	120
Fertilizer application (hrs/mo + total)	9	6	12	9	9	3
Cutting (hrs/2xwk + total)	48	*** 12	24	48	24	48
Classification	24	12	24	24	24	24
Drying (hrs/wk + total)	24	*** 12	24	24	24	24
Gathering & packaging (hrs/2xwk)	72	*** 12	24	24	24	24
Total	817.5	521	574	719	639.5	288

* The first plough is pulled by tractor (*chapulin*). Odilie and Irma had not used *chapulin* in this first stage. The cost of using El Chapulin is c. 6,000 per hour.

** Odilie and Irma calculated together Eras and *paleado*; the same happened with Irma A.

*** Julia worked once a week in these cases

NB Soledad did not participate because of time constrains; she was engaged in the preparation of her daughter's marriage. Her weeding took place the day after I left Abanico.

NB The difference in the time involved in the production process of each of the members has to do with the size of land in use which varies from 1,500 metres to 500 metres.

The hours worked on each woman's plot includes the hours worked by the woman as well as other members of her family. Since there are no jobs available in the area, a number of hours of some work in some plots is contributed by unemployed family members.

Productivity is low because women's projects are low in capital investment, and not because women work less than men in order to attend their reproductive obligations as some authors suggested (Menjivar and Perez Sainz, 1993).

Table 16

Total Hours Worked on the Plot During Three Months (Month, Week and Day)

Name	3 Months	1 Month	Weekly	Daily
Josefa	862.3	287.43	72	12
Julia	556.6	185.5	46	8
Odilie/Irma	574	191.3	48	8
Irma A.	718	239.3	59.8	10
Maria	639	213	53.25	9
Lorena	285	95	23.75	4

The average time spent on the plot (weeding, seeding, harvesting, etc.) is nine hours daily.

Table 17

Total Income Earned During the First 6 Months of 1998

Month	Mint	Tilo	Juanila	Zacate	Basil	Oregano	Hierba Buena	Total kg	Total-Paid in colones
January	17.5	307		14	4			342.5	121125
Feb		119	3			3		125	87625
March	16	127.5	9	3	2	5	1	163.5	59025
April	4							4	2000
May	16.5	169	9.5	10	3			208	84775
June	29.3	124	4.1	8		16		179.4	74475
July	5	105	4	8				132	48940
Total	88.3	951.5	29.6	43	9	24	1	1154	477965

Source: ANDAR

If we divide the total earned during this period, c./477,965 by seven months, each of the members of *gema* earned an average of c./8,535 monthly (US\$34.14), when the average Costa Rican salary, in the agricultural sector, in 1998 was c./38,158 (US\$152.63) (*Caja Costarricense de Seguro Social*).

Medicinal plants demanded by ANDAR are restricted to those plants most in demand by the market, because, in the market economy the organizing principle is maximization of profits and capital accumulation. The group sells what ANDAR buys, and these are *tilo, albahaca, juanilama, menta, oregano, zavila, zacate limon, zaragundi, savila*.

Table 18, presents the volume of production of the group and the production demands of ANDAR.

Table 18

Abanico Women Monthly Supply and ANDAR Demands

Products	Abanico's Supply	ANDAR's Demands
Basil	21.5	80
Juanilama	43	80
Mint	43	--
Oregano	43	--
Savila	--	--
Tilo	77	400
Zacate Limon	21	60
Zaragundi	17	35

Source: *Consejo Nacional de Produccion-Regional Huetar Norte*, Sub Region Fortuna, letter, Oct 26, 1998

ANDAR's demands for medicinal plants are four times what the group can supply. ANDAR does not pay attention to who owns and controls lands. The production of medicinal plants requires a large land area, more capital investment and modern technology, particularly for

weeding and storing. But GEMA's project is restricted to minimal loan obtained from the NGOs at exorbitant interest rates.

Table 19 shows the large share that ANDAR takes from the women's work. In cases such as *juanilama*, ANDAR takes 45 percent. Tilo is also the crop that gives ANDAR the highest percentage of net profits (42 percent).

Table 19

Earnings Structure per Kilogram of Medicinal Plants (in Colones)

Products	Abanico Women	%	ANDAR	%
Basil	450	64	250	36
Juanilama	500	55	400	45
Mint	500	71	200	29
Oregano	400	62	250	38
Savila	475	63	275	37
Tilo	425	58	305	42
Zacate Limon	330	63	190	37
Zaragundi	330	55	270	45

Source: ANDAR, Meeting agenda, Abanico October 13, 1998.

There are no regulations that standardize the percentage of commission that the NGO, in this case, ANDAR, takes from the sale of the products produced by the women under exploitative conditions. One might say that in capitalist society this is the norm, and the highest profit obtainable is the goal. However, in this case, the NGOs are ostensibly created to help establish income-generating projects for the rural poor; instead, the highest profits are returning to the NGOs.

Table 20 shows the disparity of productivity between the members of the group cultivating medicinal plants, as well as the low average per kilo of plants sold to ANDAR.

Table 20

Total Hours Worked, Total Kilograms Produced and Total Income Earned (in Colones) in Three Months

Name	Total Hrs. Worked	Total Kg Produced	Earnings in Jan	Earnings in Feb	Earnings in Mar	Total Income	Average Income/hr
Josefa	862.3	186	20050	30143	30400	80593	93.46
Julia	556.6	49	8500	18927	lost land	27427	49.27
Odilie/I	574	72.5	11300	10515	8575	30390	52.94
Irma A.	718	36.5	8150		6475	14625	20.36
Maria R	639	35	6975	1051.5	4825	12851.5	20.11
Lorena	285	31	10850			10850	38.07
TOTAL	3634.9	410				176736.5	48.62

Josefa and her family have a bigger plot, worked more hours, and sold more kilograms of plants. Josefa's production cost is c./1,066 (US\$4.26) per kilogram. Odilie has the highest production cost c./4,524 (US \$18). But, dividing the total income earned by the group (c./176,73.5) by the total kg. (410) produced, the total income received by the group meant an average payment of c./431.00 (US\$1.72) per kilogram of medicinal plant. This means that women are receiving as an income from ANDAR US\$1.72 per day because, as Table no. 16 demonstrates, it takes them nine hours to produce one kilogram of harvested plants. In addition, to harvest that one kilogram of medicinal plants, it costs them almost three times as much as to produce it (and this is only using Josefa as an example; others are in worse situations).

The GEMA women working in the Abanico Medicinal Plant and Organic Agriculture project do not come close to covering their expenses. In other words, if we look at Josefa's production cost per kilogram once again, it becomes clear that Josefa receives only c./425 per kilogram, which means she retrieves 40 percent of her labour costs. Even adding both shares, Josefa's share (c./425) and ANDAR's share (c./305) per kilogram, Abanico women's production cost have not been covered.

On average, the family group has worked almost nine hours per kilogram. That is to say, that after a long working day, each of these women received, on average, less than US\$2 per day. Thus, the rate of exploitation of the women and their family members surpasses the average rate of exploitation in the agriculture sector. Taking into consideration that the average hourly wage in agriculture was c./230 (US\$0.92) in July 1998, the number of hours worked by these women should have allowed them to earn the following salaries: Josefa (12 hours daily) should be earning c./66,240 (US\$287.43) monthly; Julia (8 hours) c./41,952 (US\$185.5); Odilie/Irma (who worked slightly higher hours than Julia over the three-month period) c./44,160 (US\$191.3); Irma A. (10 hours) c./55,200 (US\$239.3); Maria Rosa (9 hours) c./48,962 (US\$213); and Lorena C. (4 hours) 21,859 (US\$95). Instead, as demonstrated earlier, the average income received by the women and their families amount to c./431 (US\$1.72) per kilogram of medicinal plant, and this represents nine hours of intensive labour.

Does the project have economic viability for GEMA?

To maintain this project we are taking time from our families. (Tilo).

Women in the project not only produced under high levels of exploitation; they also became indebted to the NGOs. In July 1998, they owed the Arenal Project, 1,052,250.96 *colones* (US\$4,209) for the use of c./700,000 (2,800 dollars) that provided the initial capital investment they needed to begin the micro-enterprise. That is almost double the value of the initial investment. In 1999, when I returned to Abanico I learned that the interest on the loan provided by the Arenal Project was eliminated.

The biggest debt problem for the GEMA is with ANDAR. ANDAR loaned GEMA an additional c./1,000,000 (US\$4,000) to buy (as indicated earlier) an old house which they could use as a meeting place, as well as a site to sell their products. The loan was given to the group at an interest rate of 33 percent

The group bought the house with the intention of having a place to meet, and fundamentally, a place where they dream of having a processing plant to make soap and shampoo, to provide jobs for our children, and to use the medicinal plants that ANDAR does not market. ANDAR expected that the group

would get funding from Holland but the proposal was not well done and needed to be reworked. In addition, the group learned that the founders do not fund infrastructure. (Tilo)

ANDAR is interested in only a few kinds of medicinal plants. ANDAR buys *menta, tilo, juanilama, zacate limon, albahaca, oregano, hierba buena*. ANDAR is pressuring women to plant only what the market demands; if women agree, genetic erosion will continue. Women aware of genetic erosion cultivate other medicinal plants: *sauco, reina de la noche, salvia virgen, gabilana, incienso, sabila, ginger, citronella, diente de leon, llanten, tilo, hoja de sen, saragundi gotukola-kola, planta lechera, romero, calahuana, eucalypt medicinal, hoja del aire* and *verbena*. GEMA hoped that by buying the house they could create a laboratory and raise the money they needed to produce other byproducts which they would then sell with the intention of becoming more self-sufficient. Unfortunately, this was impossible given the unavailability of other financial resources and support to help them launch the initiative of their dreams. GEMA was naïve in thinking that the international aid offered to them would meet the needs of the local community, as opposed to meeting the demands of the international markets.

D. Women's Household and Community Work

As I demonstrated above, Abanico women work, on average, nine hours daily on their plots cultivating the medicinal plants. In addition, Abanico women are (as most women) responsible for household production and consumption (cooking, cleaning, washing, child rearing, caring for the elderly, contributing labour to the family's plot) as well as community activities.

The following table shows the hours worked in the household, which amount to an average of 13 hours daily. These work hours are women's responsibility, but the work, in some cases, is done with the help of the daughters, as for example Josefa and Irma Alvarado, and sometimes with the help of a sister, as in the case of Odilie. In other cases the women work until they are exhausted.

Table 21 shows the link between household and community participation, because: (a) women in the group have increased their participation in the affairs of the community and the group; (b) women in the group have developed some skills that are being used to advise other community projects; (c) women in the group attend conferences, exchange experiences, and participate in workshops, etc.

Table 21

GEMA's Members Participation in Daily Household Production, Consumption and Community Work

Task	Josefa/D	Julia	Odilie/Irma	Irma A./D	Maria	Lorena	*Jorleny
washing	2	3	2	1.3	2	1.3	3
cleaning	30	2	1	2	2	2	2
cooking	2	4	6	3	6	5	4
shopping (hrs/w)	1	2			3	2	3
ironing	2	1		1	30	45	1
dishes	30	3	1.3	2	45	45	4
child care	6	2		24	30	24	24
school/homework	1	2		2	1	1	2
Development Association. (hrs/m)			Irma-4	Irma A.-4			4
church (hrs/w)	2	2	2	2	7	2	2
credit cttee (hrs/m)		4	Odilie-4			4	
GEMA (hrs/m)	3	3	3	3	3	3	3
education (hrs/w)						2	1
health (hrs/w)		2					
total household (hrs/d)	14	17	10.5	11	12.8	11	16
total hrs community/w	2	4	2	2	7	4	3
total community work/m	3	7	11	7	3	7	7

*Until 1998, Jorleny had no plot to work; (D) denotes daughter; (d) daily (W) weekly, (M) monthly.

To summarize, women's working time is divided by the number of functions they are responsible for:

a) nine hours daily, on average, on the plot;

b) 13 hours on average, per day, in household work. This work, in some cases, is accomplished with the help of their daughters, or sisters. Women are in charge of the household duties (cleaning, cooking, washing, ironing, etc), of the nursing, child rearing, family health care, elder care. Women's work as housewives has increased with the closing of the health centre and the elimination of one teacher in the elementary school as part of structural adjustment;

c) another important contribution in number of hours is in the community work. Abanico women are members of the board of directors of the Abanico Development Association, very active members of the church, school, and the local health centre (which is only open one morning a week) (one member, for example, volunteers at the health centre that a registered nurse visits once a week) and members of ANDAR's credit committee.

The amount of work that these women are responsible for suggests they are the primary supporters of their families in terms of energy spent in providing sustenance.

The inclusion of women's work in the market, without considering important facts and in the structure developed by NGOs, increases their marginalization. Since their income does not represent enough to sustain their livelihood, the women of GEMA said that it helps to keep them half alive (*medio-vivir*). Nevertheless, they recognize that some of them are earning an income for the first time in their lives. For them an income is an income, even when it is very small and the cost very high.

In addition, Abanico women who work with medicinal plants, as non-traditional agro-exports are in a difficult situation. On the one hand, they have to compete with other Third World women producers to achieve the standards, in terms of sanitary measures, designed by the TNCs for their own convenience. On the other hand, they cannot compete with non-traditional agro-exporters, Dole Food Co, Del Monte, BANDECO, COBAL, etc., that have good access to technology, credit, and wide marketing networks, (*ensamblados desde la produccion hasta*

el comercio) and receive state subsidies paid by the government to the exporters of non-traditional products. Poor agriculturalists who produce medicinal plants do not receive such incentives and are forced to eke out a living where their expenses far outnumber any potential gain.

Needless to say, under these conditions, GEMA members live in often dire poverty because they earn less than the minimum wage, which in and of itself, is insufficient to meet minimal consumption requirements. In addition, the general decline of real salaries and the reduction of buying power, by daily devaluation, is ongoing since the beginning of the debt crisis. Furthermore, living in a country where inflation is high, combined with elimination of subsidies for education, health care and housing, results in a sharp decline in women's standard of living.

The men of the town have shown admiration for our work, because we persevere. Men supposed that with the first difficulty we were going to dissolve the group. They were wrong, the group is keen to continue. However, our men said, what a pity that the results, in economic terms, do not correspond to the work done. We do not get much from the plants, because the plants do not sell at good price. The selling just provides a small income, we cannot pay our debts nor can we save. However, the plants are our hope for the future. (Tilo)

Family micro-enterprises, in general, are a long-term process, because the family perceives the enterprise as holding their children's future. But the economic logistics of this micro-project are a) the reduction of labour costs. The medicinal plants are produced in the cheapest way using unpaid family labour; and b) the reduction of the group as consumers. The amount the women received for their work does not cover the costs of a monthly basic food basket for one person. Therefore, the members of the group rely heavily on the family members working in the *finca* in order to reproduce their own labour force.

E. Women's Empowerment

1. Did the Project Increase Women's Access to and Control of Resources?

An important contribution of the project is that, for the first time, women have credits and income. In terms of access to land, all the members have access, but only one woman responded as sharing ownership of the land with her husband. Half of the group share ownership of the house with their husbands.

Table 22

GEMA Members' Access to and Control of Resources

	Josefa		Julia		Odilie/I		Irma A.		Lorena		Maria		Yorlene	
Resources	A	C	A	C	A	C	A	C	A	C	A	C	A	C
land	✓		✓		✓		✓		✓	✓	✓		✓	
credits	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
transport	✓								✓				✓	✓
Income	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
house	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	
elementary education	four		six		six		six		six		second		six	
secondary	completed						third grade							

A stands for 'access to resources'; C stands for 'control of resources'

Women recognized that without the support and/or additional income of other family members who work in the *fincas* or the packing factories some of them would not be able to survive.

2. Did the Project Increase Women's Bargaining Power Within Their Households?

Yes and no. The Abanico Medicinal Plant and Organic Agriculture Project has contributed to the individual and collective growth of the members. ANDAR's specified aims to develop leadership and strengthen self-esteem have been partially achieved. Women of the group are participants in the community organizations. Women value their own work and their self esteem improved. One participant said:

When we started the project, my belief was that as a woman I wouldn't be able to plow (*plear*). I asked my husband, do you think I will be able to plant? He answered, yes, if you want, you can. GEMA broke the myth that agriculture is man's work and that woman's work is to make beds. (Juanilama)

We, the GEMA, are in different committees of various community organizations. The women who are not in the group say that they cannot leave their household responsibilities. I believe that they do not yet have the courage to be elected as presidents or treasurers, because they are scared as we were before the project. (Juanilama)

The family members are also changing perceptions about the value of the wife's work or the daughter's work. Family members initial negative perceptions have been changed and they become engaged in the project.

At the beginning my husband was negative, he told me Forget about that, you are wasting your time. However, now he helps. When I go to the packaging-factory to work in order to make ends meet, he takes care of the plants because they mean money. (Menta)

From the beginning my husband agreed with the project as long as we got some money, but my mother was against it. After the good results, my mother takes care of my children if I need to go to training. Before that, she never did. (Hierba Buena)

But group members were not able to substantially change their low status relative to men at home (father, husband, brother). Very often it is the daughter's work that replaces the

mother's work in domestic chores and in taking the care of the family members. In table 21 we see two cases in which the mother and daughter's work are combined.

I feel support from my family. My whole family has liberated me from household work. My husband helps in the plantation as well as in the care of the children when I work in the plantation and when I go to work in the packaging-factory to supplement the income. But who really replaced me is my older daughter, who is in charge of the cleaning, cooking, and care giving. She is recognized as the mother of the house. (Juanilama)

In Odilie's household, she, her sister and her mother are in charge of the housework. Irma Alvarado's daughter is in charge of the household chores. Maria Rosa, Julia, Lorena and Yorleny are in charge of the household. However, there are some changes in the idea of what "women's work" is.

In our house, women's work was never taken into account. Now when the men come in from agricultural work and see us working with the plants with no time to make lunch they go into the kitchen and prepare something light to eat. However, in the cleaning of the house, these changes are not taking place. (Oregano)

For some of the women the project become an additional burden as well as a source of social recognition as contributors to community life.

3. Did the Project Empower Women Within GEMA?

Yes. Women in the group recognize power imbalances within the group, negotiate among themselves, and eventually may build a women's organization. Power imbalances came about because the group leader's economic situation is not the same as that of the other members. She also had experience working in groups, and was able to link GEMA to the outside organizations. This information and knowledge was not transferred to the other members. This situation slowed the maturation process of the group and stopped its full integration. Her leadership was experienced as authoritarian by some members of the group.

When we started the project, the president of the group had the last word. Every time someone came with a project to the group, we all looked at her to wait for what she had to say. If she disliked the idea, nothing happened. These group meetings are for the first time taking place without her telling us what to do. We see how differently we all behave, when we are free. But she is changing. We all love her, because she loves the group. (Zacate Limon)

4. Did the Project Increase Women's Status and Power Within the Community?

Yes. Women recognized that the project allowed them to renegotiate their situation in the community

ANDAR gave us opportunities for education and training (*capacitation*) in organizations, marketing, organic identification, organic fertilizers, credit, exchange of experience. (Oregano).

People in the community started to value our work. One day I heard a comment, these ladies are working hard and making money. This comment was made by people outside our families because our families know that we work hard, but we do not make money. However, that comment made me proud. (Oregano)

5. Did the Project Improve Women's Rights?

No. The world market accommodates only one model of development: export-oriented production based on flexible labour markets, lower wages, freer trade. Competitiveness in countries like Costa Rica has increasingly come to depend upon low cost production. Costa Rica is forced to rely on competitive wages in order to try to resolve their trade imbalance. In the face of inadequate wages, the legal working day in those micro-enterprises has disappeared. Working for less than the legal minimum wage, small rural groups such as GEMA will eventually collapse from the exhaustion of a never-ending competitive spiral of reducing real wages.

The pressure for increasing Costa Rica's foreign currency in order to pay the external debt implies augmenting productivity and/or enlarging the export volume. Both of them,

increasing productivity and the export volume, are achieved only by intensifying the exploitation of workers.

WID proposals for correcting market failures and imbalances are deeply flawed not only empirically, as I have shown with the GEMA group, but also in their theoretical foundations. The belief that the market simply needs to be regulated to remove constraints which prevent women from reaching their full development has circular reasoning. The WID framework accepts the standard predictions of neoclassical economics based upon a model which assumes the markets are perfectly competitive, that is, no market participant can influence the price of any input or output. Thus, the inclusion of non-market relations into WID economic discourse, which demands a strong state to channel resources to women, is flawed. Particularly now, when no national government is willing to violate the laws of the market.

Furthermore, WID does not recognize that in Third World countries, income is so low that having a job does mean not necessarily getting enough to provide for the working member. Therefore, rural women producers in Costa Rica will always rely on the *finca* production of their husbands, brothers or fathers-in-law.

Globalization basically means that the market, has become increasingly universal as an economic regulator and rights are confined to formal rights. If economic openness is irreversible and trade expansion is a foundation for prosperity, as the new conventional wisdom insists, WID's policies are faced with one challenge: how should women's competitiveness be created and maintained? WID's view that removing constraints on the market simply requires political will is based on the conviction that constraints on the market are not general barriers to capital accumulation but just specific problems that can be resolved by judicious policy. But WID programs cannot avoid the neo-conservative dream that free trade and deregulation of labour markets will resolve trade and employment imbalances, and gender inequalities. Market imperatives place limits on state policies, particularly in indebted countries; therefore, the only way to integrate the work of Third World women into the international market is through the subsidy of the market and by the hard work of these women and their families and by their personal sacrifice. Thus, the market

is subsidized by the unpaid labour of rural women working on their plots, plus their unpaid labour in the household, and their community work. Micro-enterprises increase the goods and services in the market, at the same time that self-sufficiency in rural areas is undermined.

In sum, Abanico women's participation in the GEMA project has: a) shifted them from no-wage to low-wage work, perpetuating the exploitation of their labour; b) vastly increased their workload; c) enhanced their status as community participants, giving them slightly more influence and decision-making involvement, but with disproportionate increases in responsibility and commitments of time and energy.

F. Conclusion

The Abanico Medicinal Plant and Organic Agriculture Women's Project has mixed results. On the one hand the market approach: a) creates dependence, because the stage of growing the plants is the only stage that women control; b) deepens indebtedness, because loans are attached to exorbitant interest rates. Women's work is being used as the most effective source of capital accumulation, because women bring into the accumulation process their own and their family free labour. NGOs, by calling them small entrepreneurs, contribute to the unchecked exploitation and superexploitation of the whole family, and c) stretches and intensifies her working day.

On the other hand, the project is helping GEMA to successfully negotiate its position and progress within the community. Women are assuming leadership in the community, many for the first time, and they are making connections with other women's groups. However, the market economy cannot build reciprocity, strengthening of ties of kinship, friendship or cooperation.

Despite the fact that women who work in the plots have become borrowers and obtained new sources of income (very limited income), this process has done more to advance the commodification of women's work and availability of local produce, local biomass, and free labour to the market than to enhance women's status and independence. Therefore, this

process has been in many ways detrimental to women. The majority of these women work in precarious conditions with no daycare, no health benefits, no insurance, etc. They have increased the workload for themselves and their families, and their household work has been transferred to the young girls, whose chances of furthering their education become less and less. How women's work is inserted into the market will determine an inter-generational transference of poverty.

Overall Summary of Findings: Debt-for-Nature Investment

Neither economic science, nor ecological science models can confront the debt and the environmental crisis, because they do not depart from the ideology and practice that accelerates these crisis. Quantifying social and ecological values in monetary terms, economic models only register market transactions (profits, capital accumulation, growth), so, the economy captures only this part of the human activity in the national account. Women's labour, nature, Third World countries' deteriorated Terms of Trade, Indigenous peoples will continue to be important sectors where enterprises externalize costs. These workers can not be paid or can only be paid much less than their value or the system will collapse. Therefore, entire groups of society that contributed to the "success" of the economic development model in the industrial countries have no hope of being included in the benefits in so-called economic sustainable development nor in ecological sustainable development models.

Citing poverty reduction, the World Bank only makes decisions and investments to guide environmental managers in the search for minerals and energy.

Citing environment crisis, corporate NGOs using debt-for-nature investments are gaining access to Latin American economies. This debt-for-nature investment furthers the IMF and the WB project of pushing local governments and communities to achieve integration into the global economy by supporting the genetic material-based economies; deregulate and liberalize economies by breaking up the country in Conservation Areas; shift from an agriculture-based to a manufacturing and service industry-based economy by developing ecotourism, packing factories; and liberalize their financial sector by using the funds to to develop micro-enterprises. Debt-for-nature investment is creating a new aristocracy, an NGO aristocracy, that in association with other portfolio investments organizes conservation using economic monetarist policies where markets control the world by deciding where to produce, what to produce, how to produce, who will produce, and for whom. Thus, the second generation of debt swaps, the bilateral debt-for-nature investment practitioners, pursue sustainable development for all by commodifying nature and human nature in ways that are

consistent with sustainable profitability and capital accumulation and unsustainable for life on Earth.

Costa Rica, isolated from the United States, may be one of the first casualties of the Latin American region, for three reasons: a) in trying economic development, Costa Rica is destroying its own sustenance base (people and nature), by continually cheapening labour power and abusing agro-chemicals; b) in pursuing sustainable development Costa Rica is risking the break-up of the country and pushing *campesino/a* producers into a state of desperate survival, compelling them to participate in transferring control of their own natural resource; and c) in following Women in Development programs, Costa Rica is making women's disadvantaged position in society permanent.

As women are entering the work force, earning less than the minimum wage and with no plan to reduce the cost of social reproduction of their labour, women are the poorest members of the community. In this way, my study shows how land tenure and markets closely interact to obtain high rates of women's exploitation.

Debt-for-nature investments, therefore, foster debt-dependency and the commodification of human beings and nature for profit. They do not shift the destructive development paradigm, nor do they seriously reduce debt, poverty, or environmental degradation.

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Appendices

Appendix 1 – Memorandum of Understanding between The Government of Canada and The Government of the Republic of Costa Rica Concerning The Canadian Debt Conversion Initiative for the Environment

The Government of CANADA (hereinafter called “CANADA”) and the Government of the Republic of COSTA RICA (hereinafter called “COSTA RICA”).

WHEREAS CANADA and COSTA RICA have entered into an agreement for the use of a line of Credit for fertilizers signed January 27, 1983, a second agreement for the use of a Line of Credit for fertilizers and railway equipment signed September 27, 1983, and a third agreement for a line of Credit for fertilizers signed March 6, 1985;

WHEREAS the total amount due by COSTA RICA to CANADA pursuant to the three development Loan Agreements is twenty-three million, one hundred and eighteen thousand, eight hundred and forty-seven Canadian dollars and thirty-five cents (CDN\$23,118,847.35);

WHEREAS COSTA RICA has officially established a new National Sustainable Development Programme in alliance with nature, in accordance with Agenda 21 and the Biodiversity Convention endorsed by COSTA RICA and CANADA;

WHEREAS CANADA and COSTA RICA wish to implement the Latin America Official Development Assistance (ODA) Debt Conversion Initiative announced by CANADA at the United Nations Conference on Environment and Development (UNCED) in June 1992;

NOW THEREFORE CANADA and COSTA RICA have reached the following arrangement:

ARTICLE I

COSTA RICA will pay in local currency (colones) to the COSTA RICA-CANADA Trust Fund for Biodiversity, as set forth in Annex “B” attached hereto and forming part of this arrangement, the equivalent of eleven million, three hundred and fifty-five thousand, eight hundred and nine Canadian dollars and fifty cents (CDN\$11,355,809.50) in accordance with the financial

terms and conditions set forth in Annex "A" attached hereto and forming part of this arrangement.

ARTICLE II

The proceeds generated in Colones will be used for the financing of environment and other sustainable development projects in line with the objectives of the above-mentioned Latin America ODA debt Conversion of the COSTA RICA-CANADA Trust Fund for Biodiversity as set forth in Annex "B."

ARTICLE III

If during a given Canadian fiscal year (covering the period from April 1st to March 31) COSTA RICA meets in a full and timely manner its payment obligations in Colones set forth in Annex "A," CANADA will undertake the necessary steps to obtain Parliamentary approval to reduce the portion of the debt owed to CANADA by COSTA RICA pursuant to the above-mentioned Development Loan Agreements. The portion of the debt to be reduced will correspond to the equivalent in Canadian dollars of the payments actually made in Colones by COSTA RICA during that year. The exchange rates used will be in accordance with Paragraph 2 of Annex "A."

ARTICLE IV

At the end of the period of payments in Colones as set forth in Annex "A," and provided that these payments are actually made by COSTA RICA in accordance with the financial terms and conditions provided for in the said Annex, CANADA will undertake... [three lines cut off by the photocopy machine].

ARTICLE V

CANADA will have the right to review the implementation of the ODA Debt Conversion Initiative in Costa Rica. In the event that the implementation of the initiative faces insurmountable difficulties, or departs from its original objectives as set forth in this arrangement, CANADA will have the right to propose an alternative mechanism for the COSTA

RICA-CANADA Trust Fund for Biodiversity, as set forth in Annex "B," or to terminate this arrangement by way of an official notice sent to COSTA RICA.

ARTICLE VI

This arrangement will take effect on the date of its signature.

IN WITNESS WHEREOF, the undersigned have signed this Memorandum of Understanding in duplicate in English and Spanish in the city of San Jose on the 25th day of May, 1995.

ON BEHALF OF THE GOVERNMENT OF
THE REPUBLIC OF COSTA RICA

ON BEHALF OF THE GOVERNMENT OF
CANADA

ANNEX "A"

FINANCIAL TERMS AND CONDITIONS

1. The payment of eleven million, three hundred and fifty-five thousand, eight hundred and nine Canadian dollars and fifty cents (CDN\$11,355,809.50) referred to in Article 1, will be made by COSTA RICA in twenty (20) quarterly payments of five hundred and sixty-seven thousand, seven hundred and ninety Canadian dollars and forty-eight cents (CDN\$567,790.48). The payments will be due on January 02, April 01, July 01 and October 01, with the first payment due on the date of signature of this arrangement, and the last payment due on the date of signature of this arrangement, and the last payment on January 02, 2000.
2. The payments will be made in Costa Rican Colones at the prevailing exchange rates between the Canadian dollar and the United States dollar, as quoted by the Bank of Canada, and between the United States dollar and the Colon, as quoted by COSTA RICA's Central Bank. The reference exchange rates to be used will be registered two days before the due date of each payment.
3. The payments in Colones made by COSTA RICA will be deposited in a special account of the COSTA RICA-CANADA Trust Fund for Biodiversity.

4. From the date of the signature of the arrangement, CANADA will suspend the regular billing for the principal and interest payments pursuant to the three above-mentioned Development Loan Agreements.
5. CANADA will not bill COSTA RICA for the payments to be made in Colones.

ANNEX "B"

ADMINISTRATION AND OPERATION OF THE INITIATIVE

1. Through the signature of this Memorandum of Understanding, COSTA RICA benefits from CANADA's Latin America ODA Debt Conversion Initiative, Implemented by the Canadian International Development Agency (CIDA), to improve the capacity of sustainable management of natural resources, environmental protection and improvement of the socioeconomic conditions of its population.
2. A special mechanism will be created, named the COSTA RICA-CANADA Trust Fund for Biodiversity (FIDEICOMMISSA), for the use and control of the funds resulting from the Latin America ODA Debt Conversion Initiative. The FIDEICOMMISSA will be administered by a Binational, COSTA RICA-CANADA, Committee (COMMITTEE), made up of a representative of the Government of COSTA RICA, named by the Ministry of Natural Resources, Energy and Mines (MIRENEM), and a representative for the Government of CANADA, named by CIDA. In addition, other observers can be jointly named by the COMMITTEE, such as the Administrator or persons providing technical advice.
3. According to Article 2 of this arrangement and the payment procedures established in Annex "A," COSTA RICA, through its Central Bank, will deposit the financial resources in local currency into a special account of the FIDEICOMMISSA opened in one of the banks of the National Banking System. The resources will be readily available to meet the requirements of the FIDEICOMMISSA for new projects in planning and for financing projects approved by the COMMITTEE.
4. Apart from approval of all projects, the COMMITTEE will also be responsible for approving the project selection criteria, establishing the annual FIDEICOMMISSA investment priorities, approving the annual investment plan, ensuring the sound management of the financial resources of the FIDEICOMMISSA, selecting and managing the Administrator, monitoring the

implementation of projects, reviewing the follow-up reports and approving the annual report of activities for its presentation to the parties and its later publication.

5. The COMMITTEE, via its two members, will receive policy, technical and legal guidance to ensure the initiative's adherence to national priorities. In the case of COSTA RICA, the guidance will be provided by the National Council for Sustainable Development, which establishes COSTA RICA's sustainable development priorities on an annual basis. For CANADA, the guidance will be provided by CIDA, who will be responsible for inter-departmental consultations as necessary.

6. The COMMITTEE will select, via a transparent and competitive process, an Administrator for the initiative. The administrator will be responsible for promotion; formulating recommendations to the COMMITTEE regarding policies, strategies and project selection criteria; screening project requests according to criteria set by the COMMITTEE; preparing project requests, with analysis and recommendations, for review by the COMMITTEE; preparing agreements with project beneficiaries; monitoring implementation of projects; preparing progress and financial reports as requested by the COMMITTEE.

7. In order to guarantee the operation of the FIDEICOMISSA, CANADA authorizes the use of up to 3 percent of the quarterly payments made by COSTA RICA, as detailed in Paragraph 1 of Annex "A," as a contribution to the administration of the initiative. All interest earned on the account of the FIDEICOMISSA and/or through the investment of the deposits made are to be added to its capital for further project financing.

8. The resources coming from CANADA's Latin America ODA Debt Conversion Initiative will be dedicated to those actions that contribute to the economic and intellectual value of biodiversity, and therefore to its integration in the course of the country's socioeconomic development.

9. Half of the resources will be dedicated to specific activities leading to the strengthening and consolidation of the National System of Conservation Areas (SINAC), and specifically to the Arenal Conservation Area (ACA), in the areas of human resource training, scientific research, and the management of areas for their sustainable use, in accordance with appropriate technical and scientific criteria. Resources for the second phase of the ongoing CANADA-COSTA RICA bilateral project, Arenal Conservation and Development Project, will be allocated from the SINAC portion of the funds. The additional projects and activities will

be proposed by non-governmental Costa Rican institutions, and only in exceptional cases, public, according to the established procedures that give the Conservation Areas the authority and responsibility required for the formulation and implementation of projects. Partnerships with Canadian organizations or institutions should be encouraged.

10. The remaining half of the resources will be dedicated to projects of the National Institute of Biodiversity (INBio), leading to the knowledge and use in a sustainable manner of this biodiversity in the Conservation Areas. Particular emphasis will be given to those aspects that contribute to the sustainable development of these sectors. Similar attention will be given to social programmes that transfers the knowledge of biodiversity in an easy and accessible way in the different sectors of society. Partnerships with Canadian organizations or institutions should be encouraged.

11. The programmes and projects eligible for financing from the FIDEICOMMISSA must be feasible in their technical, economic, financial and social aspects, and must be implemented by organizations and institutions with adequate technical and financial capacity and renowned reliability.

12. The financial implementation of the resources of the FIDEICOMMISSA will be oriented to the development and financing of eligible programmes and projects. The programmes and projects to be financed must be within the framework of the national priorities established by COSTA RICA and within the following areas agreed upon with CANADA:

- a) Control of environmental pollution (in all its forms);
 - b) Preservation and appropriate utilization of soils, water resources and forest resources in hydrographic basins;
 - c) Biodiversity preservation;
 - d) Strengthening of national environmental institutions and grassroots organizations;
 - e) Development of policies and strategies promoting the sustained management of resources;
- and
- f) Those projects falling within the environment evaluation requirements of CIDA and classified as priority by COSTA RICA.

13. In accordance with the principles established by the COMMITTEE for the FIDEICOMMISSA, the two recipient institutions, SINAC and INBio, will present Annual Programmes/Budgets for

the implementation of projects and utilization of their respective resources. Similarly, they will present annual reports on the progress of projects.

14. In accordance with explicit government policies, the experience and information gained in the implementation of this programme will be shared with other interested tropical countries.

15. In the case that COSTA RICA partially or totally fails to fulfil its payment obligations under this arrangement, it is understood that the programmes and projects previously approved through the mechanism set forth under this arrangement and under implementation will come to an end due to the lack of appropriate funding. Furthermore, it is understood that those programmes and projects which would have been approved through the mechanism under the assumption of the payment schedule as set forth in Annex "A" would not be approved for lack of appropriate funding.

16. In the same way, if COSTA RICA partially or totally fails to fulfil its payment obligations under this arrangement, CANADA will not under any circumstances make compensatory payments from its own financial resources.

Appendix 2 – INBio Financial Requirements

INBio used the debt-for-nature funds in three Investment areas: 1) Investment in Social Management; 2) Investment in Bioprospecting Division; and 3) Investment in Heritage Maple Leaf Foundation.

Table 23

INBio' Budget presented to the Canada-Costa Rica Trust Fund for Biodiversity-FIDEICOMMISSA

	Colones	CAN \$
Social Management	285000000	1993006.83
Prospection	180000000	1258741.26
ARCE	283960000	1985734.27
TOTAL	756960000	5237482.36

Source: INBio

1) **Social Management** supports the development of the intellectual and spiritual use of biodiversity, conducted by the Information Dissemination Division.

The investment component in social management was developed throughout 1996, 1997, and 1998. It included:

- a) the purchase of 1.8 ha. of land with a value of c.54 million colones (\$377,622.38) (done).
 - b) building installations for c.100 million colones(\$ 699,300.70) (done). The building is approximately 1000 m² with the following units: educational, conferences and meetings, visitors sections, administration.
 - c) equipment: audiovisual and computational, valued at c. 25 million colones (\$ 174,825.00)
 - d) operational capital c.8 million colones (\$ 55,944.06)
 - e) Indigenous issues Colloquium, 1997 and 1998, c. 8 million colones (\$ 55,944.06)
 - f) biodiversity information c.90 million colones (\$ 629,370.63)
- SUB-TOTAL: c. 285,000,000 (CAN \$ 1,993,006.83) (c.143 = CAN\$ 1)**

2) Bioprospecting Division supports the development of industrial uses of biodiversity. New research agreements generated changes in the amount of information needed to be processed and INBio-proposed new investments:

The investment component in Bioprospecting division developed throughout 1996, 1997, and 1998 includes:

a) building — construction of 500 m² with a value of c. 50 million colones, distributed as follows: microbiology lab area, extraction- fragmenting lab area, - preparation and extraction of samples lab area, administrative area. (The land for the prospecting division was bought by NORAD funds) (CDN\$ 349,650.35)

b) equipment (incubators, cabins de flujo laminar, microscopes, etc). Representing a c. 14 million colones investment in microbiology lab (CDN\$97,902.10). The laboratory has three main activities):

1. Bacteriology Area (biological-assays take place to detect antibiotic, antibacterial activity)

2. Micrology Area (bio-assays to discover antifungal activity as well as the production of mushroom cultivars that generate extracts.

3. Cellular Cultivation Area (to develop cellular tests of toxicity and some trials of important insecticides. This represents c./9 million (colones) in chromatographic equipment for extract fragmentation lab (CDN\$ 62,937.63); c. 7 million colones in equipment to produce extracts in placas de microtitulo (microextracts) for Preparation and Extraction of Samples Lab (CDN\$ 48,951.05).

c) Business Encounters. Two proposed business encounters between Canadian businesses and INBio's personnel in 1997 in Canada at a cost of c.2 million and the second in Costa Rica with the assistance of Canadian academics and scientists at the cost of c. 5 million (CDN\$48,951.05).

d) Management Support: Hiring a manager, c. 13 million in 1996 (CDN\$ 90,909.10)

e) Biodiversity Information: c. 50 million colones in 1996 and c. 30 million colones in 1997 (CDN\$ 55,944.56) -- SUB-TOTAL: c./180,000,000.00 (CDN\$ 1,258,741.26).

3) Heritage Maple Leaf Foundation (in honour to the Maple Leaf of Canada):

To increase Canada-INBio cooperation activities, the Heritage Foundation was created. Its funds c. 283.96 million (CDN\$2 million), from 1998 to 2000, is constituted with Fideicommissa money from the Canada-Costa Rica Debt-for-Nature Swap. The fideicommissa is administered by the president and treasurer of INBio and Mr. Tremblay (World Wildlife Fund-Canada) as a member named by the Canadian Embassy.

Debt-for-nature swaps agreement proposed to increase Canadian participation in the Taxonomy Team, increasing the number by two in 1996 and by three in 1997 and beyond, paying their travel and living costs for up to 15 days yearly. These costs are included in the expenses of Biodiversity Information (Social Management and Bioprospection) area. Furthermore, two communication *encuentros* (meetings) were planned: One *encuentro* with the business sector. For that, INBio proposed a group of six people (two from the pharmaceutical area, two from the agro-industry area and two from the bio-technology area). The goal of the *encuentros* were to reach commercial agreements. The cost of the business sector *encuentro* was c./2 million colones (US\$8,230).

Another *encuentro* with academia was also proposed. INBio proposed to meet experts from the areas of chemical prospection, taxonomy, microbiology and biotechnology. The cost of the *encuentro* with the academia sector was budgeted as c.5 millions (US\$20,576). In addition, INBio proposed a colloquium to exchange experiences between the leaders of Canadian Indigenous peoples and Costa Rican Indigenous peoples to analyse INBio's work (INBio).

Appendix 3 – The Arenal Project Financial Requirements

The Arenal Project is structured around eight components

- 100 - project administration, management and technical assistance;
- 200 - strengthening of ACA-MINAE strategic programs;
- 300 - implementation of strategic sub-programs identified in the ACA the General Land Use Plan;
- 400 - strengthening of entities established during Phase I;
- 500 - implementation of a gender and development strategy for the ACA;
- 600 - support to the implementation of a marketing strategy for production and services available in ACA;
- 700 - dissemination of the Arenal Project model; and
- 800 - strengthening of SINAC's central administration

Table 24

The Arenal Project Estimated Financial Requirements: 1996-1997-1998.

(Thousands Canadian dollars)

Component	C.F	S.F	C.F	S.F	C.F	S.F.	C.F.	S.F	C.F-%	S.F-%.
100	245,000	150,000	215,000	140,000	205,000	150,000	665,000	440,000	15.10	9.99
200	37,880	87,720	26,110	60,090	17,810	41,390	81,800	189,200	1.86	4.30
300	134,248	387,250	109,864	280,800	68,549	129,150	312,660	797,200	7.10	18.10
400	16,000	64,000	13,800	55,200	6,400	25,600	36,200	144,800	0.82	3.29
500	10,000	38,000	10,000	33,000	5,000	13,000	25,000	84,000	0.57	1.91
600	9,600	38,400	5,600	22,400	0	0	15,200	60,800	0.35	1.38
700	14,500	14,500	7,000	7,000	9,500	9,500	31,000	31,000	0.70	0.70
800	0	458,714	0	270,813	0	205,473	0	935,000	0.00	21.23
WWW-C	113,467	0	113,467	0	113,467	0	340,000	0	7.73	0.00
M&E	13,333	6,666	13,333	6,667	13,334	6,667	40,000	20,000	0.91	0.45
Contingency	44,101	0	33,269	0	0	0	77,370	0	1.76	0.00
Inflation	44,101	0	33,269	0	0	0	77,370	0	1.76	0.00
Total Funds	682,230	1,245,250	580,710	875,970	439,060	580,780	1,702,000	2,702,000	38.65	61.35
CF + SF	1,927,480		1,456,680		1,019,840		4,404,000		100%	

C.F=CIDA's funds \$Can 1,702,000.00

S.F=Canada-Costa Rica Debt for Nature Swap \$Can 2,702,000.00

TOTAL : \$ Can 4,404,000

Source: Operational General Plan Phase II (Propuesta Plan General de Operaciones para la II Etapa)

Appendix 4: Epilogue: Action Component of Research

One example of the Action is the meeting of medicinal plants women workers *with Consejo Nacional de Produccion (CNP) (National Council of Production) Officials*

CNP is a government institution in charge of the promotion of non-traditional production. Its mission is to study new techniques to improve the production process and to open new markets in North America and Europe.

The cultivation of medicinal plants is non-traditional production, a type of economic value that CNP promotes. When I wrote my first report on the problems facing Abanico Medicinal Plant and Organic Agriculture, it drew the attention of the CNP. CNP was concerned with overcoming market problems arising from trade.

On August 12, 1999, CNP held a meeting with women' groups working in medicinal plants and organic agriculture. The meeting brought together eight CNP officials, one Ministry of Agriculture and Livestock official, myself and seven groups from all over the country. Among the groups were: *Las Malinches de Pocosi; Las Musa (Mujeres Unidas de Sarapiquí);* ASMUCA Group; *Grupo de Giras "Alfonso Quiroz de Acosta";* GEMA (*Grupo Ecologico de Mujeres del Abanico*) from Abanico; and ARAO (Regional Association of Organic Agriculture).

The goal of the meeting, proposed by CNP, was to organize a national association to enhance the market component of their program and overcome problems of trade. The proposed CNP agenda involved many issues, such as: agriculture production, cost, and problems; industrial possibilities and problems; commercialization and intermediaries, and organization. The meeting only discussed the last item on the agenda—the organization of women's producers. This was not the aim of the government, nonetheless, it provided a space to link the groups for the first time and an opportunity to share experiences in dealing with ANDAR, the NGO medicinal plant trader that all these women were dependent upon.

The first speaker was a CNP official from Huetar Norte based in Fortuna who spoke about trade problems facing medicinal plant producer's deals with ANDAR. He thanked me for doing research on the GEMA group, one of the groups he works with, and mentioned that he completely agreed with my findings. He also spoke about problems he had encountered with ANDAR when he requested to be informed of the commissions ANDAR receives and the prices it pays to GEMA. He expressed the importance of an association to protect the producers. His final remarks was that "in the South of the country, ANDAR is approaching CNP officials to find other people with land to produce medicinal plants, because it knows that existing women producers are irritated with the prices it pays, and the interest rates it charges."

Following his presentation, I was invited to present the background of my research. Contrary to the first speaker, I accentuated the social problems that women confront as profit-seekers. Basically, I said that Abanico group is a micro-enterprise and in a market economy the organizing principle is profit maximization. In the case of the Abanico women, the women are earning c./93 per hour, making them the most exploited group within the agriculture sector. Wages in agriculture are depressed but male peasants earn c./270 per hour. Another problem I underscored was that women are landless and the small piece of land they work is shared with their husbands' and/or parents' work production. However, the government and the NGOs pressure the women to increase the amount of production without taking in consideration three aspects: 1) land in Costa Rica is heavily concentrated in a few hands; 2) women have never been considered as proprietary; and 3) governments and NGOs promote the idea that women's work should be considered supplementary in order to avoid paying attention to women's marginalization. As profit-seekers women are at the bottom of the ladder.

Yorlene, from GEMA, says:

For some members of GEMA, whose family has a small plot, production of medicinal plants is the only income to cover all the family expenses, then this is not an optional work but *the only* work for our family maintenance. We got a loan from ANDAR at 33 percent and we cannot save the money to repay it. The loan has made the group vulnerable in any negotiation with ANDAR. To pressure ANDAR to increase the *tilo* price from c./425 per kilogram to c./640, the group threatened with strike. ANDAR is trying to use our indebtedness

to impose on us fixed prices for the medicinal plants for a year and a half, when inflation in the country is 13 percent.

GEMA was really concerned about calling for unity. Odilie, from GEMA, appealed for unity, otherwise she says “there is no future for anyone.”

Sandra Jimenez, member of MUSA group, says:

Twelve years ago, MUSA was organized in a Demonstrative Project where 42 families participated. One by one members left. After 12 years, we are just six members. These six women rent 1/4 of hectare of my land. In my land, we produce *tilo*, *juanilama*, *albahaca* etc., in a common project. Our work day is from 7:00 a.m to 5:00 p.m, in double shifts. Everyone has different shifts, because we are in different community projects, such as health, church, school. After so many years of work, I feel that my group is discriminated, because it was born without any economic help, neither godmother nor godfather. For nine years, the only contact we had was with CECAM (*Centro de Capacitacion para la Mujer*), but it never had resources for us. Three years ago, ANDAR arrived and invited us to Guatemala to participate in an *Encuentro* between producers and industry in order to get donations from the industrial countries. Instead, the original idea of getting donations for medicinal plants producers proved beneficial to ANDAR. We have been the object of its interest, because we do not have help from governments that overlook our work, and we do not have anyone to turn to, but ANDAR. Recently, ANDAR offered the group to buy our *tilo* at c./450. ANDAR knows that we need to sell our production to any price, because a new road is being built and commerce has been paralyzed in the area. If we sell them our products at 450, you (referring to GEMA) will be thrown out because you have reached an agreement to sell in c./640 to them. We do not want to work with ANDAR, because our bad experiences. It offered us a loan at 27 percent, when we accepted the interest rate was raised to 30 percent. We won't let them take our hard work for such small payment. Before our road was paralyzed we sold directly to MANZATE, and it paid c./700 for our *tilo*. We also sell medicinal plants to tourists in a soda fountain we own (refreshment selling). After all this experience, my belief is that NGOs only intend to support organized the groups in order to profit from them. The government also has no interest in our work, the officials (referring to CNP) say “medicinal plants are only another women's project, they are doing something for the health, that are not important.”

ASMUCA's representative, comments:

ANDAR searches for good quality and low prices. ANDAR has no responsibility to the producers. It picks up the product when it wants. Sometimes we had to put the leaves in the garbage when they did not pick them up in time. They know that we live in the Atlantic (where humidity is high). The Atlantic humidity is the main problem and ANDAR waits to collect our leaves for no reason. Even though we were against its approach to our work, we were forced to sign a document giving the NGO the power to look for donations in different countries. When donations arrived, we got them as loans. We are paying 29 percent interest for the loans. ANDAR is worse than a bank. The loans permit them to take possession of our plants, because we pay the loans with medicinal plants. In our group, ANDAR decides what to plant and how much. An example of how the group is treated is this: last year we were already growing mint, when ANDAR showed up and told us to throw it out and instead to plant *zacate limon*. Can you imagine how much we lost?

Asociacion Grupo de Gira-Acosta is a small Costa Rican NGO. Its representative stated that:

To say that the medicinal plant producers live from what they produce is the biggest lie. For example, we work with four men producers. The producers have divided their land in different systems of productions in order to survive. The production is mainly used in our bio-genetic examination program and in the production of shampoo and soups. When we have overproduction we sell directly to MONDAISA and MANZATE.

Rosita, from the *Albergue La Catarata* is the ARAO representative. ARAO is the *Asociacion Regional de Agricultores Organicos de la Region Huetar Norte* that involves part of Arenal Conservacion Area. She underlined that she understood what women's delegations were talking about, because she also lived the experience.

Medicinal plant and organic agriculture is not an extra income for the families (ANDAR defines the project as a work that produces an extra income). We work because we need. If we assume more work as micro-enterprisers it is because we need the income. We do not work to be seen (*para que nos vean trabajar*). We work for the needed income.

The first meeting concluded with the following agreement among all the presents: first, to organize an association in order to approach the social, technical, and trade problems as a group; second, to meet on August 24, 1999 in Z-Trece to obtain information about ARAO and the possibilities to convert ARAO into a national organization that includes all the women

groups working in medicinal plants throughout the country; and, third, CNP has to respond to the group about CNP's role after the meeting: how CNP will support the group, the official contact person for the groups, and what CNP can offer to the groups.

The group suggested that CNP:

- make a direct approach to industry to establish prices;
- work out a plan to inform the government the size of land women microenterprises work and cultivated what is the amount of the production;
- find out the international prices of the medicinal plants.

GEMA's group had two surprises: (1) hearing that ANDAR's interest rates vary between 27 percent and 30 percent although they charge GEMA 33 percent; (2) learning that MUSAS could negotiate directly with MANZATE, and in this way earned double what GEMA was earning by selling their plants to ANDAR.